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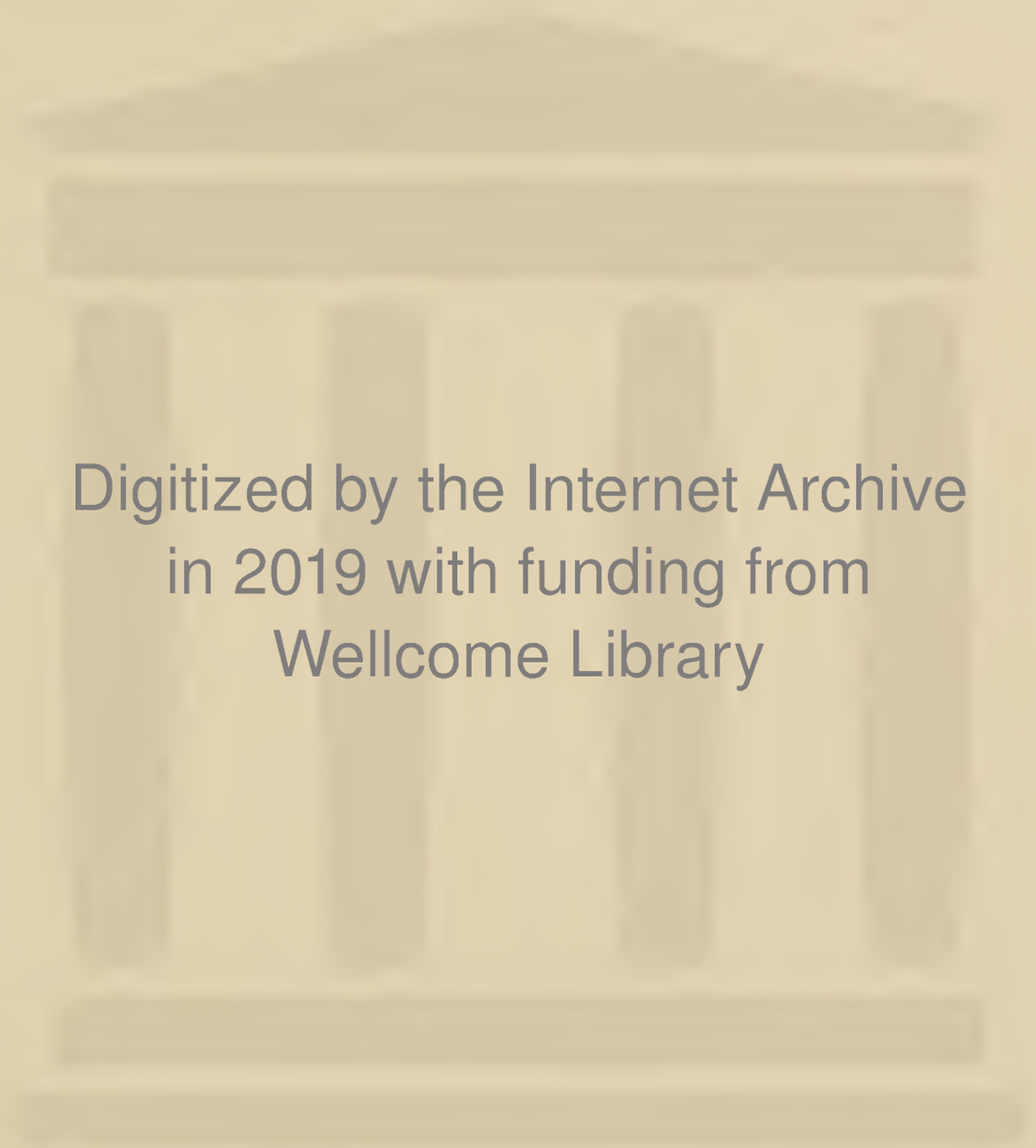

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THE MIDLAND

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REPORTER,

AND

TOPOGRAPHICAL AND STATISTICAL

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THE MIDLAND

Medical & Surgical Reporter,

AND

TOPOGRAPHICAL AND STATISTICAL JOURNAL.

HOMO, NATURÆ MINISTER ET INTERPRES, TANTUM FACIT ET INTELLIGIT, QUANTUM, DE NATURÆ ORDINE, RE VEL MENTE OBSERVAVERIT; NEC AMPLIUS SCIT, AUT POTEST.—BACON, NOVUM ORGANUM.

No. I. AUGUST 1828.

MEDICAL TOPOGRAPHY. ESSAY I.

WORCESTERSHIRE.

IN commencing the plan by which we hope to elucidate the Medical Topography of the district to which our attention will be directed, it appears desirable to state the objects, which, in this part of the undertaking, will more particularly fall under consideration. Aware that the external circumstances, which exert a powerful influence upon the health of those among whom we dwell, are so numerous, as to offer almost inexhaustible subjects for inquiry; we are far from supposing that we shall be able to institute such an investigation of all of them, as will be entirely satisfactory; we nevertheless trust that our opportunities of obtaining information, are such as to enable us to render important services in this department of Medical Knowledge. In pursuing this branch of the undertaking, we intend very much to be guided by an able sketch of a plan for Memoirs on Medical Topography, which appeared in the 67th Number of the Edinburgh Medical and Surgical Journal. The Author of that paper divides the inquiry into four general heads, and these again he subdivides into specific subjects. Under the first head he includes the Physical Geography of the place to be described, comprising notices on its Botany, Mineralogy, and Natural History. The second head refers to the Inhabitants, including an account of their food, habitations, customs, &c. Under the third head are classed such subjects as are connected with diseases, whether endemic, epidemic, or sporadic; those which appear under the form of epizootics among the lower animals; and those affecting the products of vegetation. To the fourth head are referred all miscellaneous objects of inquiry.

The County of Worcester, as the centre of our labours, will first engage attention; and we hope, in a series of Essays, to elucidate those important particulars in its local History, that are the more immediate objects of our investigation; similar Essays will be also given in succession, illustrative of the adjoining Counties.

The situation of Worcestershire is completely inland, and very near to the centre of the Kingdom. The outline is very irregular. The boundaries are, Herefordshire on the south west; Shropshire on the north west; Staffordshire on the north; Warwickshire on the east; and Gloucestershire on the south. In latitude it extends from 52° to 52° 30′ north; and in longitude, from 1° 30′ to 2° 30′ west. The official estimate laid before Parliament, states the contents of the county at 431,360 square acres; of which there are 150,000 acres pasturage; and 200,000 acres arable; these, besides corn and cattle, produce wool, hops, cider, and perry. Other objects of cultivation are great quantities of culinary and other vegetables, grown in the vales of the Severn and Avon, (Evesham,) furnishing ample supplies to their immediate neighbourhood, and to their less productive neighbours, the mining and manufacturing districts. The air and soil have been long considered as favourable to health, yielding in this respect to few situations in the Kingdom. The temperature of the air in the most elevated parts of the county, is not so bleak as considerably to impede vegetation. The highest point of the Malvern Hills rises 1444 feet above the level of the sea, yet it is covered with verdure, and the potatoe flourishes nearly to its summit. The vallies of the Severn, the Avon, and the Teme, are all nearly on a level, being, on an average, about 80 feet above the level of the sea; and they have, at this low elevation, a warmth and softness, which ripens the grain, and brings to perfection the other produce of the earth, from a fortnight to a month earlier than most other districts, even where the soil and surface are similar. The general distribution of soil through the county, has been estimated by Mr. Pitt, as follows:—

	ACRES.
Light sand, sand loam, gravelly loam, &c.	120,000
Friable loam, adapted for turnips, hops and fruit	120,000
Strong clay loam, for wheat and beans	120,000
Natural meadows on the banks of rivers	50,000
Grass land, including parks, plantations, &c.	50,000
Wood lands, roads, towns, rivers, gardens, &c.	20,000
Wastes and Commons	50,000

Having thus shortly described the general character of the surface soil of the county, we proceed to give a succinct account of its Geological Features. The Vale of Worcestershire, in a geological point of view, is a part of the great plain of Red Marle, or New Red Sandstone formation, that prevails so generally in the centre of England. Several, however, of the older Rocks, especially the Transition Limestone, rise in various situations through it.

In this plain of New Red Sandstone, the Salt Works of Droitwich are situated. The prevailing Rock around Droitwich is a fine-grained calcareo-argillaceous Sandstone. If, from the observations made in sinking to one Salt-pit, we may judge of the character and relative position of the Strata in which the Salt is found, it may be thus stated: Mould 3 feet, Marle 35 feet, Gypsum 40 feet, a River of Brine 22 inches, Gypsum 75 feet, a Rock of Salt, bored into only 5 feet, but probably extending much deeper.

From Droitwich, the New Red Sandstone extends southwards down the valley of the Severn, abutting against the elevated escarpment of the scienitic, or perhaps, granitic chain of Malvern. This abrupt termination of the Red Sandstone is very curious, for throughout the whole Vale of Worcestershire, as before noticed, it almost entirely prevails; but we no sooner arrive on the Malvern Mountain, than all vestige of it is lost; and we find ourselves amongst Rocks, decidedly Primitive. Mr. Horner, in his paper, in the Geological Transactions, Vol. I, describes this part as being composed of Scienite, but later investigators consider it, more properly, a Granite Rock, containing, occasionally, Crystals of Hornblende, and associated with Gneiss. There is no mineral production in this mountain, convertible to any useful purpose. Mica abounds in it, and is so resplendent as to have given the idea, formerly, that some rich mine might be found, and accordingly, some years ago, large sums of money were expended, with the view of obtaining some one of the precious metals.

This mountain has long been famous for Mineral Springs, not indeed remarkable for any very decided impregnation, for the use of which, many, from distant parts of the Island, resort to the village, and adjoining Boarding and Lodging Houses. We shall not here enter into a description of the highly beneficial results, which arise to weakly and scrofulous invalids who visit these health-restoring hills; because we intend to take an early opportunity of stating the results of our experience of the benign influence of their atmosphere in debilitated habits. To return to our Geological Remarks. The Granite, we find, is the principal formation, on the eastern side of Malvern; but on reaching the summit, and proceeding towards the western or Herefordshire side, we meet with a new class of Rocks, and these, contrary to those on the eastern side, are stratified; consisting principally of Sandstone and Transition Limestone, containing, though sparingly, organic remains, particularly terebratulites, and occasionally vertebræ of the encrinite. The most remarkable feature of this district, is the very great contrast between the two sides of the range. On the eastern side, a level plain extends for many miles; on the western, a constant succession of Hills. Other Hills, running also for many miles in a northerly direction, form what may be called the western boundary of Worcestershire. In the whole of this latter range, Transition Limestone abounds, particularly in the Hills about Martley and Suckley.

Pursuing our investigation still northerly, through a constant succession of hills, we reach the extremity of the Worcestershire range, the Abberley Hills. These consist principally of Transition Limestone, capped by basaltic peaks. At Pensax, near the north-west foot of these Hills, is a small patch, rather than field, of coal measure; and another at Mamble, about three miles to the west; but the relations of these have not yet been clearly ascertained. At present there is very little prospect of these mines becoming of any great value to the county; for the vein is little more than two feet in thickness, and that too at a depth of twenty yards. Moreover the coal itself is not of a good quality, as it abounds much in sulphur, and is used more for coke, for the hop-kilns, than for domestic purposes.

Having thus pointed out the nature and general bearing of the Hills, which run north and south on the western side of the county, we proceed to describe those, which, though of a very different nature, take a nearly similar direction on its eastern side. The most northerly are those between Dudley and Stourbridge; in these is partly situated, what has been called, the Dudley coal-field. This coal-bed is, in some places, of the enormous thickness of thirty feet. The Hills to the South of Dudley, which alone are in Worcestershire, are entirely composed of one mass of basalt and amygdaloid; the relations of which to the coal measures have not yet been satisfactorily investigated. There are also about Dudley, various Limestone Quarries, in which are found several marine productions; as common shells, echini, and cornua ammonis; but the rarest of all is the pediculus marinus. In a south-easterly direction from Dudley, are the Lickey Hills, near Bromsgrove, the lower and northern range of which exhibits elevated strata of Quartzose Sandstone, and some Transition Limestone. Mr. Buckland has also observed, in this part, some broken and confused traces of Coal-measures.

Of the remainder of the Hills on the eastern side of the county, which are continued, in a southerly direction, till we arrive at the Broadway range, we have to observe, that they are less elevated than the western, and belong to the newer formations; they are not characterized by any mineral production, and at the southern extremity of Worcestershire, join the Gloucestershire Hills.

The limits within which we find it necessary to confine this article, do not permit us to give more than an imperfect outline of the Geology of Worcestershire; and we are compelled to be still more concise in our notice of its Botany. Indeed we must be content with giving a statement of a few of its characteristic features, rather than attempt any general description.

Mr. Ainsworth, in a late paper on the Physical Geography of the Malvern Hills, observes, that the geographical distribution of Plants on them, and the country around, does not offer any very remarkable features. Their height does not allow of the growth, in a single latitude, of plants of a whole zone; and the temperature at the summits of the hills differs too little from that of the valley,

to afford much difference in the character of its vegetation. Specimens of Genista Anglica, Ononis Arvensis, Ulex Europæus, and Nanus, are scattered about the hills; but, excepting the Grasses, the Ferns are by far the most abundant plants, filling the vallies, while the Dwarf Fern gives a green covering to the rocks. The Viola Tricolor flowers in abundance. To offer a list of the plants growing on these hills, or on the plain beneath them, would be tiresome, as it would embrace half the compendium of British Plants. Those which seem to have claimed these hills as their own, are the Digitalis Purpurea, of which a white variety is often met with, and the Hyosciamus Niger, very abundant on the north hill; whenever the soil is disturbed, it appears, and like the Digitalis, abounds most in those stony spots which the Motacilla Ænanthe is found. In the moist places in the plain adjacent to the hills, we meet with Marchantia Polymorpha, Serapias Longifolia, Orchis Bifolia, O. Conopsea, O. Ustulata, Ranunculus Lingua, R. Parviflorus, Myosotis Minimus, Colchicum Autumnale, Polygonum Minus, P. Aviculare, P. Viviparum, Scirpus Acicularis, Satyrium Viride, Campanula Rotundifolia, C. Patula, C. Latifolia, &c. In the neighbouring woods, Galanthus Nivalis, Chlora Perfoliata, Aquilegia Vulgaris, Acer Campestris, and A. Pseudoplatanus, &c. The brambles and briars are covered with the Clematis and Tamus Communis. On the granite rocks are found the Sedum Album, and Cotyledon Umbilicus. The following lichens also grow on the hills; Lichen Geographicus, L. Islandicus, L. Perellus, L. Physodes, L. Plicatus, L. Pustulatus, L. Rangiferinus, L. Scrobiculus, and L. Scrobiculatus. In some parts of the Hilly Limestone country, we occasionally meet with the Potentilla Verna, more particularly in the neighbourhood of Malvern. Some of the rarer species of Orchis are also found in the Limestone Hills, as the Orchis Ustulata on the Abberley Hills.

Within less than half a century, a considerable portion of the land in the vales of the Severn, the Avon, and the Teme, was little better than a complete marsh, and the Local History of the remaining situations of this kind, as given by the older inhabitants, represents Ague as having been a frequent visitor. Since these lands have been drained, this disease has almost entirely disappeared, so much so, indeed, that within the last twenty years, a case of Ague has been a very rare occurrence. We must, however, exclude from this exemption, the last two years, during which cases of Ague have happened within the county, particularly in the neighbourhood of Malvern, Upton, Bushley, Evesham and Worcester. In investigating the Botany of the vicinity in which this disease has occurred, we find, in abundance, those vegetable productions that grow in such situations as are marshy. We may particularize as common, species of the Iris, Scirpus, Equisetum, Ranunculus, Drosera and Colchicum. These swampy spots are not of any considerable extent; we meet with them in damp meadows, on commons, by road sides, and at the foot of hills in different parts of the county.

It thus appears, as might have been expected, from the great variety of soil in the county of Worcester, consisting of Sand, Bogs, debris of Rock, Lime, Clay, and Loam, that there is considerable diversity in the species of plants that grow upon it.

Rivers.—These are the Severn, Avon, Teme, and Stour; to which may be added, though much smaller, the Salwarp, Arrowe, Ledden, and Rea.

The Canals, for the extent of the county, are numerous, viz.; the Stourport Canal, the Droitwich Canal, the Worcester and Birmingham Canal, the Dudley Canal, and the Leominster Canal, near Tenbury.

The Roads have been much improved of late years, since the system of Mac Adam has been adopted; by which, even the coarser gravel, afforded so abundantly in many parts of the county, is converted into excellent materials for the formation of roads; those leading to the principal Towns may now be described as very good.

The Commerce and Manufactures of the County have latterly increased, and are still increasing, not only from its own produce, but also from its being a kind of depot for the mining and manufacturing districts, which almost surround it. Of its own more peculiar exported produce may be enumerated Hops, Fruit, Cider, and Perry. It also exports of its own manufacture, Salt, Gloves, China, Iron, and Carpets.

The combination of the above circumstances has been highly favourable to the increase of Population since the year 1801. By the returns of that year, the total number of the Inhabitants of the county, was 139,333; of which 67,631 were males, and 71,702 were females. By the returns of 1821, the total number of the Inhabitants of the county was 184,424; of which 90,259 were males, and 94,165 were females. Thus giving an increase of 45,091 in twenty years, in the number of the Inhabitants.

There has also been even a greater proportional increase in the number of Houses; for in the year 1801, the number of inhabited Houses was 26,711. In 1821, the number was 39,006, being an increase in the number of inhabited Houses of 12,295.

The proportion of Houses to Inhabitants, consequently, in the year 1801, was, as 1 to 5.21. In the year 1821, as 1 to 4.72.

This County contains twelve Towns, of which Worcester is the chief; one-eighth part of the whole Population of the County is contained in this town and its suburbs; a circumstance which gives it a strong claim to our attention, for such an aggregation of large masses of people must be productive of effects very important to their health, and become a special object of inquiry to the topographer. We will therefore, for the present, decline the further detail of the peculiarities of the county, which will, on a future occasion, meet very decided attention, and now confine ourselves to a description of the principal Town, and more particularly of its Population. The City of Worcester is one of the most ancient in England. It is situated in the Vale of the Severn, and is an Epis-

copal See. The principal streets cross each other at right angles. The Foregate-street and High-street running nearly north and south; the Mealcheapen-street and the Broad-street, with its continuation, the Bridge-street, east and west. The distance of this City from London, by land, is 112 miles; by canal 200 miles. The Bristol Channel is distant from it, by land, 60 miles; by the Severn, about 70 miles. The elevation of the City, at the Cross, above the Sea, is about 70 feet,* and the elevation of the same above the bed of the Severn, about 40 feet. Elevated as Worcester is above the bed of the river, it is low as regards most of the land in its vicinity. The ground immediately around the city is generally elevated above the latter, particularly towards the east, where the surrounding country is highly deserving of notice; not only for its fertility and variety of prospect, but for the pleasing effect produced by its beautiful and often romantic outline. From the eastern blasts the city is screened by hills, covered with some fine woods, which add much to the beauty of the scenery; whilst being open from north to south, in the direction of the river, a brisk current of air generally prevails. On the western side, the distant line of landscape is agreeably broken, by gentle and well-wooded swells, whose verdant undulations have a beautiful effect on a fine evening. But, besides these rising grounds adjacent to the city, we must not forget to observe, that, in the distance, on all sides of it, arise Hills of considerable height; the most conspicuous of these, the purple-tinted Mountain of Malvern, lies about seven miles south-west of Worcester; it rises abruptly, and to a considerable height above the level plain, and produces a very striking effect upon the surrounding country. This, together with the Bredon, Abberley, Bromsgrove, and Broadway Hills, nearly surround the city.

We must not neglect to notice the relation of the Severn to the City, which is partly built upon its banks. This River, which rises in Plinlimmon, in Montgomeryshire, becomes of considerable size before it enters Worcestershire, a little above Bewdley. The bed, in its entire course through the county, is several feet below the banks; it has been stated, on an average, 18 feet. This circumstance necessarily detracts considerably from the effect that would otherwise arise, from so fine a stream passing through so rich a county. It does not, however, prevent the valley in which the river is situated, being frequently inundated, more especially in the southern parts of the county. The stream of the Severn is much increased after entering the county, before it reaches Worcester, by three small rivers and two canals,

* We arrive at the above conclusion from a statement in Nash's Worcestershire, (Vol. 2, Corrections and Additions, p. 8,) from which it appears there is only a fall of ten feet in the Severn, from Diglis to Gloucester; but it is right to add, that if we take the result of Col. Mudge's Survey, who makes the Height of the Malvern Hill above the Sea. to be 1444 feet; and subtract from this 1313 feet, which Dr. Nash makes the Height of Malvern Hill, above the Severn at Hanley; the remainder, 131 feet, should be the Height of the Severn above the Sea; but we think there is some mistake, either in Col. Mudge or Dr. Nash.

which join it. The River flows rapidly by the City, in a winding, but for the most part, south-easterly direction. The principal part of the City is situated on the eastern side. The chief streets are elevated several feet above it. The consequence is, that although we are subject to high floods, and sometimes to several during the year, the Houses on this side of the River, excepting those which are built immediately on its banks, are safe from the floods: not so the Houses on the western side, where the ground is not elevated; for these, during flood-time, are often subject to inundation, and their Inhabitants, who are chiefly of the poorer sort, are obliged either to make their escape, or live in the upper rooms. The waters rushing into the ditches and low grounds around, are apt to remain in them some time after those of the Severn are again within its banks. These observations are particularly true as respects Turkey, Cripplegate, and Hinton Lane. It would be wrong in the extreme to describe the Medical Topography of the City, without alluding particularly to these flood visitations, for they certainly have a manifest effect on the Inhabitants of the western side of the River, who, after rainy seasons, are frequent sufferers from fevers and inflammatory disorders. Another circumstance claims also some notice; during dry seasons the River is so low, that the stream is only a few feet in width; thus, almost the entire bed of the River in the immediate vicinity of the City, is left to be acted upon by the sun's rays.

The course of the Birmingham Canal also deserves attention, as having probably some influence on the health of the Inhabitants of Worcester. Its course is nearly southerly, from Gregory's Mill to the Blockhouse Fields, where it takes a south-westerly direction, and joins the Severn at Diglis. It will, by and by, be particularly noticed, that the bed of this Canal is higher than the Blockhouse Fields, and on this spot, which was originally marshy, a large Population has now been collected together. We must here also observe, that Barbourne Brook, situated to the north of the City, nearly adjoins the Canal at Gregory's Mill, and from thence, passing westerly, empties itself into the Severn, a little above Pitchcroft Ham, thus, conjointly with the Severn and Canal, enclosing the City on all sides by Water.

The Latitude of the City is 52° 9′ north, and the Longitude 2° 15′ west. The circumference is about four miles. It was formerly surrounded by a wall, part of which is still remaining. Worcester contains about 14 regular streets, besides lanes, alleys, &c. It numbers 12 Churches, including the Cathedral, and 2 Chapels, for the observance of the Established Religion. The Roman Catholics, the Independents, the Antipædobaptists, the Methodists, the followers of Lady Huntingdon, and the Quakers, have each of them respectively appointed places for religious worship.

The streets, at least the principal ones, are in general broad, well paved, and lighted with gas. This is strictly true as regards the Foregate-street, the High-street, the Broad-street, and the Bridge-

street. We cannot, however, form a correct opinion of the general state of the streets, from those above-mentioned; for almost all the minor streets between the High-street and the River, are deficient both in cleanliness and ventilation.

We may also state, that the large and principal streets are well drained, but not so those of an inferior kind; and we regret to say, that in much of the new building which has of late been erected, no attention has been paid to good and proper drainage. To no part does this observation more justly apply, than to that called the Blockhouse Fields, and with how much injury to the health of its Inhabitants, the charitable Medical Institutions of the City shew; it being almost invariably true, that fever prevails more in the Blockhouse Fields than in any part of the city or suburbs.

Nothing could have been more unfortunate than fixing upon this spot as a scite for the houses of so dense a population as now inhabits it. Leland, who wrote in the time of Henry the eighth, describes the adjacent ground as a marshy spot. He says, "there is a suburb without St. Martin's Gate, and hereabouts, in a low marish ground, was a place of Grey Friars, of the foundation of the Earls of Warwick." Such is the spot on which so many families are now doomed to dwell. We believe it would be difficult to effect a good drainage here, for the bed of the Canal is higher than the Land on which the houses are built. Nor is this defect of drainage only to be regretted in the Blockhouse Fields, where some difficulties opposed themselves, for in Britannia Square, which has been built within these few years, there are no means of disposing of superfluous water, and its various noxious impregnations, except by what are called mud wells. This neglect is very much to be reprehended, because the scite of the square is many feet above the river, and one common drain might have been readily formed to convey away the nuisances, which now remain so near the houses. Is it not probable that these mud wells may, in time, affect those from which the pump water is obtained? Does not, we may also ask, this frequent and almost general neglect of so necessary a regulation as drainage, point out the necessity of a general Act being passed by the Legislature, to oblige builders who erect any considerable range of dwelling-houses, to adopt so necessary a precaution, the neglect of which must undeniably produce disease, and its consequence a squallid population.

In conclusion, we feel ourselves warranted to say that, notwithstanding these defects noticed in the Suburbs, and others which might be pointed out in them, as well as in the city itself, it is quite clear, that for many years past, Worcester has been more healthy than in the earlier periods of its History, and than most other Towns of equal extent. About the middle of the fourteenth century, it suffered much from pestilence, and dreadfully in 1637, during the civil wars, from a similar visitation. In six months it lost no less than 1551 of its Inhabitants. The fact, too, that ground in the suburbs was appropriated to the burial of

bodies during pestilence, shews that such causes of unusual mortality, were not unfrequent. Leland says of St. Oswald's, "of later times it was turned to a Free Chappel, and beareth the name of St. Oswald, as a thing dedicated of ould time to him, and here were wont corses to be buried in time of pestilence, as it is a public cemitory for Worcester."

With regard to the Water of Worcester, supplied from the Wells, such is the prejudice entertained against it by many individuals, that if a stranger were guided by common opinion, he might be led to believe that its effects are highly pernicious, for there are many who think that the Well Water is so impure, as to be productive of Bronchocele, Scrofula, and Consumption. With regard to the first of these, Wen in the neek, so little has water to do with it, that we meet with it in the vicinity of Malvern, where the water is singularly pure. Indeed, the real causes productive of Bronchocele are so obscure, as hitherto to have eluded the most laboured investigations. Certainly the insalubrity of the water, which generally springs from a bed of gravel, on which Worcester stands, has been greatly overstated. That it contains a considerable portion of Lime, is a fact which the Tea Kettle of any old woman in the town can testify. This earth, as well as Magnesia, is combined in the Water, with the Muriatic and Sulphuric Acids, and the quantity of solid contents in each pint is very great, amounting, in some instances, to 10 grains. The contrast of it with the Malvern Water, which contains not quite a grain of solid matter in a pint, places the purity of the latter in a striking view. We have been at some pains to ascertain whether there is any difference of importance to be detected in the Water at the Pumps, in different parts of the City and Suburbs; but we do not find by the aetion of re-agents, any marked difference between the Water which is said by some to be very good, and that which is by others said to be bad.*

In the Water from the Blockhouse Fields, we detected the

* *No.* *Depth of Wells.*

1.—Mr. Rayment, Britannia Square, ... 18 feet.
2.—Dr. Hastings, Foregate-street, ... 21 feet.
3.—Mr. Butler, Tything,..... 21 feet.
4.—Mr. Harris, Blockhouse,.....about 12 feet.
5.—Mr. Bushel, Palace Row,..... ..... 15 feet.
6.—Mr. Greenaway, Lowesmore, ... 10 or 12 feet.

The Water from the Springs No. 1, 2, 3, 5, and 6, contains Lime and Magnesia, in combination with Carbonic, Muriatic, and Sulphuric Acids, with a *very slight trace* of Iron, and apparently in equal proportions; No. 4 appears to contain no Magnesia, but a greater quantity of Lime than the other numbers, and in like combination, with a more perceptible trace of Iron; after evaporating sixteen ounces of this (Blockhouse) Water, there remained *ten* grains of dry residuum, of a brownish yellow colour, which soon deliquesced on exposure to the atmosphere. No Sulphurated Hydrogen Gas appeared in either of these Waters, but as the imperfect experiments on which the above results are reported, were not made till several days after the Waters were taken from the Wells, the entire absence of it cannot be positively inferred.

By submitting Malvern Water to the same tests as the above, its superior purity was indicated; after evaporating a pint of it, there remained less than *one* grain of dry residuum, having no tendency to deliquesce.

greatest quantity of solid ingredients, and in it, contrary to what was the case in water from other parts, we failed to detect Magnesia. The experiments, however, were not made with such accuracy as to enable us to give the exact proportions, in which the several saline impregnations abound. This desirable object, we hope, however, ere long, to accomplish. In the mean time, we do not hesitate to give our decided opinion, that there is nothing in the Water of Worcester that can, with any shew of probability, be supposed to produce Scrofula; so far from it, indeed, it is rather a remarkable circumstance, that its most obvious saline ingredient, the Muriate of Lime, has long been famed as a cure for Scrofula.

On the whole, we may state an unqualified conviction, that no disease prevails in the City of Worcester, to any considerable degree, that can, even remotely, be connected with its Water as a cause. We may, nevertheless, here notice, for the benefit of those who are water drinkers, that it is always a good practice to have it boiled before it is brought to table. Soft Water is supplied from the River, thrown by a steam engine into a reservoir in the centre of the city, and the remotest parts of it receive an abundance; the expense of this is paid by a water-rate, levied on the inhabitants.*

The Trade of Worcester has, for many years, been considerable, and has given employment to a numerous population. This trade arises not only from the surplus produce of the county and its own manufactures, but also from the great conveniences of an extended Water Carriage.

The Glove Manufactory alone employs some thousand individuals, principally females, who are enabled to earn a sufficient weekly allowance to maintain themselves with comfort. But the employment of sewing the gloves being sedentary, the usual result of such an inactive state of the body is apparent, in the varied and troublesome complaints of the digestive organs, which form a large proportion of the cases presenting themselves from this class of persons for medical relief. Part of the process too by which the leather is prepared, proves very inimical to health. Those who work at grounding and paring the leather, are exposed constantly to an atmosphere loaded with dust, part of which consists of insoluble pumice stone; as a consequence, they frequently fall victims to Bronchitis and Consumption.

The China Manufactories also employ a large number of people, who generally earn large wages, but part of this occupation proves very detrimental to their health, and it often happens that consumption is thereby produced. They are also much affected with Opthalmia; but there is no disease so common amongst the lower class of people in Worcester as Scrofula, which assumes its usual protæan shapes.

* We have not here alluded to the Mineral Waters in the city and county of Worcester, but this obvious duty we shall not neglect.

To the trades just mentioned, we must add the Iron Foundries, Lace Manufactories, and Distilleries, which, though not extensive, are yet of considerable importance, both in a political and medical point of view; and, we believe, we have then stated the chief employments by which the industrious poor of this city support themselves: that they are enabled to do so in a much more satisfactory manner than those in most of the Manufacturing Towns of this Kingdom, may be concluded from the fact, that since the year 1800, during which time the Population of the City has increased in a very extraordinary ratio; the amount of Rates for the Poor has not at all increased in the same proportion. During the latter years of the late war they increased very considerably, and in the year 1817, when the Glove Trade was much depressed, they amounted to the enormous sum of £9,068; but of late years the expense of the poor has not much exceeded £4,000 per annum. The charge for 1827 was £4,261.

We shall now take a rapid view of the Population of Worcester, shewing its gradual increase, from the earliest records still extant.

The Population of Worcester, previous to the year 1800, is very inadequately reported. We possess the aggregate number of inhabitants, for two or three distant periods, yet on this number we cannot depend with any certainty; for if we apply to the parish registers, wishing to discover the ratio of increase or decrease, such is their incorrectness and incompleteness, that all reasoning deduced from them must be inconclusive.

The whole Population of Worcester is stated by Bishop Sandys, during the reign of Queen Elizabeth, in 1563, to have amounted to about 10,025. In 1646, when Worcester was besieged by the forces of the Parliament, the total Population amounted to 7,176, being a very considerable decrease since the preceding period. To this number, if we add the garrison and the trained bands, the total will amount to 9,183. From this whole number we must deduct the garrison, and it will leave us 8,183, as the total Population of the City of Worcester in 1646; a decrease of 2000 since the year 1563.

It does not come within the scope of our plan to trace out the causes of the increase or decrease of Population, when they spring from the advance or retrogradation of trade or manufacture; but we may observe in this place, that the cause of this decrease at the above period, is to be sought in the oscillation of the Woollen Manufactory, once employing so large a part of the Population of this city. In the Plan of the City, published by Mr. G. Young in 1779, he states the number of the inhabited houses as 2,449, and the inhabitants as 13,104; an increase of 5,000 from 1646, and of 3,000 from the Reign of Queen Elizabeth. Hence the number of inhabitants to each house, at the above period, was rather more than five.

The census of 1800, gives the Population of the City of Worcester as 11,352; and the number of inhabited Houses as 2,237.

The Population of the Suburbs was 4,848, and the inhabited Houses 952. Thus the whole Population amounted to 13,589, and the number of inhabited Houses to 3,189; leaving only four persons to each house. Supposing the returns of each period correct, we have an increase of 740 houses, and an increase of population only amounting to 485 persons. Whatever allowance we may feel disposed to make for the incorrectness of the returns at the different periods, still, it must be acknowledged, that an increase had taken place in the number of inhabited houses.

When we examine the Burial Returns, this will assist us, in some degree, to account for the decrease in their numbers, when compared with the whole population.

In 1810, according to the Population Returns, published under the Act of Parliament, the Population of the City amounted to 13,814, and the number of inhabited Houses, to 2,425; the Population of the Suburbs, to 5,945; and the inhabited Houses, to 949. Thus the gross Population was 19,759; and the whole number of inhabited Houses, 3,374, giving about five inhabitants to each house. Here, in ten years, we have an increase of 6,170 Inhabitants, and 185 inhabited Houses.

The census in 1821, gives the numbers of the City as 17,023, and the inhabited Houses as 3,037. The Population of the Suburbs, as 8,811, and the inhabited Houses, as 1,620. The whole Population, therefore, amounted to 25,834; and the whole number of inhabited Houses, to 4,657; giving again five persons to each house.

Since 1810, we have an increase of 6,075 Persons, and 283 inhabited Houses. The increase, therefore, in the number of Inhabitants, is the same as during the former period; but the increase of inhabited Houses is greater, being in the ratio of 15 to 10.*

We have here traced, from the earliest records extant, the Population of the City of Worcester, and our survey has shewn it, excepting at one period of the time, continually increasing. The number of Houses, in the ratio of their increase, has rather outstripped the number of inhabitants, and will stand thus:

PROPORTION OF HOUSES TO THE INHABITANTS.

1779, as 10 to 53.—1800, as 10 to 42.
1810, as 10 to 58.—1821, as 10 to 55.

In 1800 the ratio of inhabited houses is so large, that we feel disposed to attribute some incorrectness to the returns. It does not appear probable that so large an increase of habitations would have taken place, without some increase in the population. Either, therefore, Mr. Young's statement must be wrong, or the Returns made under the Act of Parliament. We have no means

* The proportion of Males to Females in the *City* and *Suburbs* of Worcester, from 1800 to 1821, dividing the whole period into sections of ten years, was as follows:—

1800, City, 1 to 1.311.—In the Suburbs, the Males and Females were equal.
1811, City, 1 to 1.320.—Suburbs, 1 to 1.246.
1821, City, 1 to 1.179.—Suburbs, 1 to 1.225.

of arriving at the data on which Mr. Young formed his conclusions, but, knowing that the other returns were made from authentic sources, we feel disposed to place reliance on them, and to place whatever error there may be, to the side of Mr. Young.

The ratio in 1821, is greater than in 1810, being in the former case, as 10 to 55, and in the latter, as 10 to 58. This is material to remark, since nothing more powerfully affects the health of the mass of the people, and increases the burials, than their being crowded together in small and close apartments. From 1800 to 1821, the ratio of the births and deaths is as follows. We have divided the whole period into two periods of ten years each, and then have taken the average number.

PROPORTION OF BIRTHS TO DEATHS.

1800—1811, as 14 to 10. 1811—1821, as 147 to 100.

From hence, by a table of Euler's, taking the excess of births above the deaths, and comparing it with the whole population, we determine that the City of Worcester, supposing the present ratio of increase to continue, will double its Population in sixty-six years.

The most curious fact exhibited by these returns, is the decrease in the ratio of Burials to the whole population.

This ratio stands thus:

1800, as 1 to 32.—1811, as 1 to 43.—1821, as 1 to 48.

The number of Births in 1800, to the whole Population, was in the ratio of 1 to 31; and in 1821, as 1 to 30; from hence we may conclude, that the great increase of population is rather to be attributed to the decrease in the number of deaths, or to the prolongation of human life, than to the increase in the number of births.

We draw these conclusions, trusting to the exactness of the returns, and though, in many cases, they may be incorrect, yet, after every allowance we may feel inclined to make, the gradual decrease in the number of Burials must be very great. We may fairly, therefore, determine, that Worcester, though year by year increasing in Population, has become more favourable to the prolongation of human life. To whatever cause this fact is to be attributed, (whether to the preventive check acting more powerfully, and retarding those early marriages, by which a progeny was produced only to die, or whether to the improved mode of living, increased habitations, cleanliness, or to whatever other cause, we leave others to determine); the fact is such, and it proves that this city, instead of being unhealthy, as some suppose, exhibits bills of mortality, in which the average number of deaths is smaller than most other cities of the same population. That the preventive check has operated in no small degree, will be seen from the following table, exhibiting the number of marriages as compared with the whole population, during three different periods.

PROPORTION OF MARRIAGES TO THE WHOLE POPULATION.

1801, as 1 to 60.—1811, as 1 to 63.—1821, as 1 to 70.

It cannot be doubted, that the number of burials must have been much influenced by this gradually decreasing number of marriages ; but still other causes must have conjoined, to produce so great a decrease in the burials. We of course mean the ratio which the number of burials bears to the whole population, in the distinct periods of which we have treated.

We form this opinion from several causes tending at the same time to increase the burials. The Blockhouse Fields are covered by one hundred and twenty-seven houses, with a population of six hundred and forty-seven persons. This number give us five persons to each house. As the houses are generally small, and situated in a low marish ground, with a ditch filling the air with its pestilential vapour, the mortality in this part of the town must be very great. Again, the decrease of Agricultural Labourers must also have the same tendency. The number of persons employed in Agriculture, to the number employed in Trade and Manufactures, is in the following ratio.

1811, as 1 to 16.—1821, as 1 to 22.

Shewing in ten years, a very considerable decrease of Agriculturists. These causes would tend to counteract the influence of the preventive check ; or in other words, the effect produced by the decrease in the number of marriages, would be counteracted by other causes increasing the number of deaths.

We feel that we are far from having exhausted this part of our subject. Whoever may follow us, will be enabled to throw much light on this interesting and useful topic. Honours await those who, by brilliant exploits, add to the glory of their country, but the greatest contributor to its political well-being, is the man who points out what lessens, or adds to, the health or happiness of the poor, the great mass of the community. Whatever tends to exalt them in the scale of moral and rational creatures, tends, in the same degree, to exalt the nation, of which they must ever form the largest part in political power.

Such a nation may not be pre-eminent in foreign conquests, she may not desolate one half the nations of the globe, yet, in moral vigour, in self-defence, she will excel other nations, and deter all aggression.

We earnestly hope that the real happiness and improvement of the poor may daily increase ; and, should our labours at all tend to the same end, we shall feel that we have not conducted our publication without a beneficial result.

ARTICLE II.

Observations on Fever;

On its various Sources, Symptoms and Treatment, as they more generally occurred in Worcester *and its immediate Neighbourhood, between the Years* 1781 *and* 1820*; read before the Worcestershire Medical and Surgical Society, by a resident Practitioner.*

By the rules of our Society, I am required, on succeeding to the honourable situation to which you have called me, to address you on some subject connected with our profession: possibly a retrospect of the more usual form of Fever, such as I have observed it here, and its various treatment, may not prove uninteresting. I shall premise some notice of what appear to me the more ordinary sources; how far it may be considered infectious; and conclude by laying before you the practice a long and not inattentive observation has suggested, in two essential points, Purging and Bloodletting.

In 1781, the City and Suburbs of Worcester were very generally reported much subject to Fever. If we consider the wretched state in which many of the lower classes of the Inhabitants were crowded together in the remains of the former Clothing manufactories, the neglected state of the streets these buildings were situated in; that, even those of the most airy parts were but partially under-drained, and the drains so ill constructed as frequently to admit of their contents stagnating and infecting the air for a considerable distance round their grates; considering also the large quantities of water highly charged with animal matter issuing continually from the Glove manufactories; it does not appear improbable that these local circumstances may have contributed to render more active the ordinary sources of Fever. Certain it is, that Idiopathic Fever, justly characterised "nec Inflammatoria, nec Nervosa ex omni parte," did, from some cause or other, frequently and very generally prevail; and that, in some of the hotter summers, accidental indispositions, apparently slight, and little connected with the symptoms usually ushering in Fever, did commonly induce a degree, more or less severe, of such fever.

You will observe, that it is to the more ordinary sources of Fever, as they occur in the ordinary circumstances of civil life; and to Fever, such as it more commonly arises from them, these observations apply. In a neighbourhood so highly cultivated as this is, Marsh miasmata can have but little influence in producing Fever; and human contagion, I am disposed to think, is in these cases, at most, a rare source of it. This latter question, as far as relates to the more active fromites of tropical climates, has of late been amply discussed, and the

result of these discussions proves beyond doubt, that the powers of the more concentrated contagions are by far more limited, and their sphere of action more confined, than we formerly supposed them to be. May we not then reasonably infer that contagion arising from these milder grades of disease is still less active, and confined within a still narrower circle? Exhalations issuing from a body labouring under any acute form of disease, from Fever especially, must be in some degree noxious, and though in these cases, I conceive, of themselves nearly inert, as to any specific action, concurring however with one or more of the usual causes of Fever, they may no doubt occasionally have some influence in producing it. This idea of the more frequent inefficiency of human contagion in this species of Fever is no new opinion taken up from the various statements that have appeared lately on the subject, but one I have long held, and occasionally maintained, both in general conversation, and in communication with Medical friends. In support of it, I offer the following observations:

During an attendance of more than thirty years, on both the County and the City Prisons; and, for a still longer period on two, sometimes more, of the extensive establishments that flourish here for the education of youth, with a fair proportion of the more numerous families of the town and neighbourhood, many opportunities for observation have presented themselves; and I do not hesitate to affirm that, even under circumstances, when there has appeared some room to suspect infection from two or more falling ill in succession, I have uniformly observed sufficient reason to doubt the absolute communication of the disease from this source, independent of other causes. It is rarely the case when the disease assumes its more active form, running its course with greater violence and rapidity; it is in more protracted instances, when other circumstances, such as fatigue, loss of rest, or anxiety, have predisposed the individual, that it takes place. The sufferers are seldom those more immediately employed about the sick; in the schools, where it has repeatedly happened that five or six of the pupils have suffered in succession, the patients were from various apartments; I do not recollect a single instance in which two, sleeping in the same bed, both were taken ill. In two instances of this Fever occurring in the County Prisons, in consequence of the bad effects I conceived I had witnessed on a former occasion (the fatal Fever of 1783*) from crowding the sick together, they were not separated from the other prisoners, as long as they could leave their beds; yet, notwithstanding they were continually surrounded by their companions, and must have been frequently in absolute contact with them, few, in proportion to their numbers, were taken ill: and though the prisons, on each occasion, were not free from Fever for some weeks, no

* In this year, 1783, the County Prisons were not free from Fever for more than eight months: the number of cases exceeded 70; in 13 it proved fatal.

aggravation of the symptoms, or fatal case, occurred. Many similar instances, though on a smaller scale, have occurred in the schools, in the prisons, and in large families: these, as well as the almost numberless sporadic cases observed in my own practice, or which have come to my knowledge, all appear to me to concur in sanctioning the opinion, that human contagion is, at most, a rare source of these Fevers. On all these occasions, I have uniformly discountenanced the use of fumigations, or other means usually employed to prevent infection; for fear of introducing what I apprehend to be a far more frequent source of this mischief, mental depression. If what has been advanced in some measure establishes this opinion, the practical inference I wish to draw from it, is, cautiously to avoid whatever may impress on the mind of the patient, or attendants, a suspicion of any thing infectious in the disease; the mischief arising from the depression it occasions overbalancing by far any advantage to be derived from the most efficacious prophylactics or correctors we are yet acquainted with. It may not be irrelevant to this part of my subject, to state some of the many instances in which I have witnessed the bad, and sometimes fatal, effects of this more common source and aggravator of Fever. Of thirteen patients that died by Fever in the County Prison in 1783,* twelve were debtors. As these had the same medical attendance, were better lodged than the felons, and had their friends to assist in nursing them, I see no probable cause of this disproportionate fatality among them, but that extreme depression of spirits they all laboured under. On a late occasion, this principle appeared to me illustrated in a very striking manner. A female servant was taken ill in a gentleman's family; on the third or fourth day, an opinion had been given that her disease was Typhus Fever: as the family did not consult the gentleman who gave this opinion, as their Medical attendant, I was desired to see her. She had been previously removed into a laundry adjoining the house; on the staircase were placed jars of boiling vinegar and pots of tar, occasionally stirred with a heated iron; the floor of the room was literally drenched with vinegar; no one approached the bed without a bunch of rue, or a cloth steeped in vinegar; from an outstretched arm and half-averted face, the patient received both her food and medicines; an elderly woman from the adjoining village attended to perform the more menial offices of a sick room; those of the servants, who, from necessity, occasionally waited on her, were

* I cannot mention the fatal Gaol Fever of 1783, without adverting to the heavy loss our Profession sustained in the premature death of Doctor James Johnstone, jun. His unremitted exertions and successful services on this unfortunate occasion, as well as in every other professional engagement, are elegantly recorded by the late Dr. Parr, on a mural tablet dedicated to his memory in our Cathedral. From his treatise on Angina Maligna, the Profession at large had formed high expectations of his future services. His last patient, and a fellow-sufferer, willingly embraces this opportunity of adding his humble tribute to the transcendent yet modest merit, to the warm disinterested friendship that so peculiarly distinguished him.

strictly forbade mixing with the family. I found my patient lying on her back; her eyes half closed, tears stealing occasionally from them; the breathing hurried, and interrupted with frequent sighs; the limbs stretched along in listless apathy, and the whole system, both body and mind, in a state of extreme depression. Thus she lay, fully impressed with the fancied malignity and probable fatality of her disorder, patiently awaiting her impending doom. Fever she certainly had, and in no slight degree; not such, however, as to warrant all this terror and precaution. On my signifying this opinion to her, and desiring these indications of alarm might be removed, her countenance brightened; she conceived better hopes of struggling through her disease; in a day or two her strength and spirits appeared fully competent to contend with it, and the event proved them to be so. Another of the female servants had been taken ill, and was sinking fast into the same desponding state; but, on receiving the like assurances of the nature of her complaint, and the fair hopes entertained of her recovery; being also informed of the improvement in the other patient, she resumed fresh courage; her symptoms continued moderate, and she recovered with little difficulty. A few days afterwards, the master of the family was accidentally indisposed, with slight feverish symptoms from cold. The anxiety natural to a highly nervous temperament, soon shewed itself here, and to such a degree, as convinced me that if they had been aggravated by any unfavourable result, in either of the other cases, his fever, which proved slight and of short duration, would certainly have been greatly increased, if not fatal. But why multiply instances? How often have unfavourable impressions on the minds of our patients been a source of serious anxiety to each of us! How often have diseases, which, on their outset exhibited no particular violence, under such impressions, baffled our best efforts and terminated fatally!

It would be a waste of time to enter into a detailed description of these Fevers. Instead of enumerating a long list of symptoms, as they are met with in every work that treats on the subject, I will notice those only, which, by their greater or less intensity, distinguish the earlier years of the period to which these observations apply, from those of a later date. The Pulse, though stronger than I now usually observe it, was not more frequent; the heat and dryness of the skin were far greater, and so constant, that the least moisture was seldom, if ever, observed, till the disease was evidently giving way. The Eyes were more impatient of strong light; much noise was far more distressing to the increased sensibility; febrile anxiety, restlessness, and an almost total indisposition to sleep, attended from the beginning. Delirium of the violent kind came on earlier, and exceeded greatly what I have observed of late. Constitutional efforts to produce crisis were frequent, and often obviously successful. Cases in which the disease wears itself out, as it were, the exacerbations becoming gra-

dually less and less severe, were proportionably rare. Sphacelation of the Nates, and of the immediate neighbourhood of the Spine, critical depositions also, were more frequent. There was seldom much cough, or any determination to the lungs. Derangements of the Hepatic System were more or less constant, though it must be confessed, they drew but little of that attention they now obtain, and to which they are so justly entitled.

The treatment usually commenced with the exhibition of an emetic, and some mild purgative; the latter repeated occasionally, so as to procure three or four stools during the twenty-four hours, for the first few days; but always with considerable caution, lest, by more frequent evacuations, the strength might be reduced. A Saline Mixture of Neutralized Citric Acid, or Acetated Water of Ammonia, with a mild Cardiac (Confect. Aromat. Mist. Camph. Spt. Æther Nitr.) was given every four hours; after the first eight or nine days, a similar dose, with fifteen or twenty drops of Tinct. Opii, was given at night, and ten or twelve grains of James's Fever Powder. Blisters were applied to the neck, stomach or side; and Sinapisms and Fomentations to the feet and legs, as circumstances required. Other cases I attended, in which, after the first week or nine days, the Cortex Cinchonæ, in decoction, combined with the compound Tincture, and sometimes with the Cortex in substance, was given; and the whole succeeding treatment had solely in view to ward off the more severe symptoms of Typhus. To procure Crisis in the first instance, by Perspiration, and when that failed, to support the strength, during a more protracted struggle, till some successful effort of nature should take place, was the general principle on which the medical treatment was conducted. The Diet was, of course, arranged in conformity with these ideas. The general result was, that under the former treatment, more protracted cases occurred, but the patients certainly more frequently recovered; under the latter, by the eleventh or twelfth day, the violent derangement of the Sensorium of the first stage, degenerated into a low muttering Delirium; the Breathing became violently oppressed, the Epigastrium tumid and tender; there were frequent small dark-coloured highly offensive stools; the Tongue became shrunk, and the brown fur with which it was coated, darker and thicker; the Teeth became loaded with black sordes. The patient, in the severer cases, seldom survived the second week; an incessant Diarrhœa closing the fatal scene. It was not always, however, that Diarrhœa proved fatal.* I have witnessed cases in which

* Diarrhœa, of a singular character, such at least my own experience and reading induce me to call it, took place on one occasion, when some of the prisoners in the County Bridewell had suffered rather severely from Fever. Four or five, during their recovery, became affected with general Anarsarca; this was soon followed by an almost incessant watery discharge from the bowels, at first of the colour of the drainage from a stonemason's yard, depositing, on standing a short time, a light-coloured grumous matter; in a few days, it became

it continued in spite of Bark, Port Wine, Cordials, Opiates, and the most active Restringents, and, I verily believe, saved the patient. In the course of a few years, the latter treatment was exploded, a more free use of aperient medicines was generally adopted, but the Spectre Debility still so haunted the practice, and had taken such hold of the public mind, that it required both considerable time and confidence to dare act in opposition to its impressions. It was not till within the last twelve or fourteen years of this period, that the present active measures, in the first stages of fever, were adopted; and at a still later period that blood-letting was ventured on. The practise of a Foreign Graduate residing here, when I first came to this City, differed materially from what I have before stated. He died within a few months after I became acquainted with him: in the only case in which I had an opportunity of observing it, he was called into consultation in a late stage of the disease. Notwithstanding no small degree of alarm had arisen from the frequency of the stools, he advised the immediate giving up of all restringent medicines. The Port Wine, which was previously given in considerable quantities, sometimes with spices, was reduced more than one-half, and given diluted; a brisk dose of Submuriate of Mercury was ordered, with demulcent antiseptic Glysters. The patient recovered. As two neighbours, respectable housekeepers, taken ill at the same time and from the same obvious source,* were dead, the circumstance was much canvassed in the town, and made considerable impression on my mind. After the death of this gentleman, frequent inquiry was made for the Powders he had usually prescribed in Fever, for the poor. I ascertained these to have consisted of Jalap and Supertartrite of Potash; or Rhubarb and Sulphate of Potash: and that these were directed to be taken so as to keep the bowels in an active state, after an Emetic, and brisk dose of the Submuriate of Quicksilver. The earnestness with which these powders were applied for, affords a probable proof that they had been found useful.

Having attempted to give some idea of the prevailing character of this Fever, such as it exhibited itself during the first years of this period, contrasted with its later appearances; and given a general outline of the practice then pursued, it remains for me to state that which I have myself adopted in two very essential points, Purging and Blood-letting. The advantages derived from them on most occasions in the early stages

evidently tinged with florid blood. These evacuations had but little, if any, feculent odour; neither could I ever trace any appearance of mucus in them. The patients did not complain of pain. A variety of medicines were tried, without any good effect, for some days. The first relief experienced, was from half a grain of the Submuriate of Mercury, with one-fourth of a grain of Opium, taken every four hours: under this course they all recovered.

* These three cases originated evidently from the same contagion,—Water, in a highly putrid state, let off, while they were there, from a cask standing in a small court, belonging to a house that had been for a considerable time uninhabited.

of these fevers, I take for granted: to purge with the Submuriate of Mercury, either alone, or in combination with other aperients, is, I also presume, at this time almost universally practised. In the more urgent cases, when I have seen the patient in the first days of his illness, I have usually given from five to ten grains, according to his age and strength, repeating the dose in eight or twelve hours, continuing it in doses of two grains every night, and generally night and morning. In milder cases, I begin with these smaller doses, and continue them in both till the morbid character of the evacuations is corrected: if a too great activity of the bowels, or a determination to the mouth, does not forbid it. Others have noticed the extraordinary quantities of this medicine persons in Fever bear. I have been often much surprised at this circumstance, and still more at the enormous accumulations of fæculent matter evacuated by it, and the peculiarly offensive effluvia attending them. This plan is continued to the extent of six or eight motions in 24 hours, so long as the stools continue decidedly fæculent, and do not exhibit any appearance of Hyper-purgation. When the Submuriate cannot be continued, which is rarely the case, Saline Purgatives supply its place, either by more frequent repetition, or more active doses: some mild form of them with Tartarized Antimony, accompanying the use of it throughout. This is a faithful outline of the practice I have pursued in this particular for some years, under the more common circumstances of these Fevers. Cases, however, occur, in which much purging is inadmissible, and, of course, others in which doubts will arise whether it may be advisable or not. To distinguish correctly on these occasions is of great importance. When excessive purging has taken place, and this I believe is readily ascertained by an attentive examination of the evacuations; or, when encreasing debility threatens, especially in the advanced stages of protracted cases, much purging can never be admitted; but there is a danger of mistaking the depression usually brought on by the fatigue attending frequent motions, occasioned sometimes by the irritating quality of the dejections, at others by some lodgment in the lower parts of the intestines, for a really exhausted state of the system, and much depends on our forming a correct opinion. The complaints of faintness and extreme debility, those of highly nervous temperament constantly make, when the bowels act freely, should be also carefully scrutinized, to prevent our judgment being unduly biassed by them. Acting with these precautions, it appears to me, that under most, if not all other circumstances, and in every stage of these Fevers, if the bowels haye not been adequately emptied in the outset, or sufficient attention shall not have been paid to this point during their progress, active purging, and above all, purging with the Submuriate of Mercury, to the extent the patient's strength will admit, is the remedy on which we can most safely rely.

Blood-letting, the other practical point to which I propose drawing your attention, had not been employed in these Fevers, within my knowledge, before the latter end of this period. It was at this time I first began to employ the Lancet in their early stages, the first four or five days. The quantity taken has varied from ten to sixteen ounces, and has always been what I considered a full bleeding, regulated by the age and strength of the patient, sometimes urged to this point, notwithstanding some degree of faintness may have come on during the operation. In these Fevers, as in other complaints, I have generally observed, the relief obtained has been in proportion to the impression made at the time on the system; that is, the general symptoms have been more decidedly mitigated by it; for in no instance have they been wholly removed. I have seldom had occasion to bleed more than once from the arm; but topical bleedings have been afterwards employed occasionally, as particular local determinations have arisen. In 1820, these Fevers became again more frequent, and their symptoms more severe, than they had been for several years before; the result of this year's experience convinced me more decidedly of the advantages of this practice; hitherto I have seen no reason to abandon it. Few cases occurred in which any considerable degree of violent delirium took place; fatal cases were proportionably rare.* It is, however, necessary to observe, that my patients latterly have been favourably situated, being in general, either individuals of families that readily supply all the requisite assistance in sickness, or their servants; and that I have generally had the advantage of seeing them on the first days of their illness.

The general expediency of Blood-letting in these Fevers, has been asserted; it is equally certain that, in some instances, it would be highly improper; there are, of course, intermediate cases, in which, neither the symptoms denoting such excitement as directly indicates the necessity of Blood-letting appear; or, those which obviously denote such a state of approaching debility, as absolutely forbids it. In the absence of these stronger features, some difficulty often arises in determining the line of conduct to be pursued; as it is under tendency to debility alone that we may err in following the general principle, it were to be wished some indications could be pointed out by which this state could be correctly ascertained. Information is certainly to be looked for, in the first instance, from the Pulse; but here it is sometimes not easy to distinguish between a weak and an oppressed pulse, two states (in a practical point of view,) essentially opposite. Approaching debility is, in some measure, indicated by a shrunk countenance; a tongue, apparently reduced in size, and appearing shrivelled; a flabby feel of the muscles;

* My opportunities for observation during the last eight years, have been greatly diminished, in consequence of my having resigned the care of the Prisons, and of the surrounding Parishes; on this account I have confined my observations to the period first stated.

little distention or resistance in the veins, under compression; blood, when drawn, rarely flows in a continued stream from the opened vein; when dropped on linen, it spreads wide, giving a faint tinge; dropped into water, it readily separates; the red particles are immediately precipitated to the bottom of the vessel, where they appear distinct, and of a dusky red colour. These indications, though by no means decisive, are, I think, generally observed, and assisted by an extended view of the several circumstances attending each particular case, will lead to a correct decision. The season of the year, and the general tendency of the diseases prevailing at the time, will also assist the Medical Attendant in forming his opinion. Perhaps on no occasion is the intuitive knowledge, acquired by long and close observation only, and which may be considered, in some measure, analogous to the Tactus Eruditus, of the Surgeon, more necessary.

In addition to the Blood-letting and active Purging, I have before observed, that small doses of Neutral Salts, with the Tartrite of Antimony are given. Frequent Ablutions* are always employed. The freest possible circulation of air round the bed, is procured by removing the foot valences, and allowing no more of the curtains to be closed, than what may be necessary to exclude too much light. When I can carry the point, the matress is placed on the feather bed, or the latter is wholly removed in the hotter seasons. The blankets, and all woollen cloths are also removed, as bad conductors of heat, and their place supplied by linen articles; the same objection holds good against those of cotton, and particularly against quilted coverings. When the room is small, all useless furniture is removed. The Diet is confined to the various Farinacea, Fruits and other Vegetables, with the usual Diluents for Drink. Rice-water, flavoured with Lemon Peel, I find grateful to the patient, and it has this advantage over most others, that it is less ascessant. The *Bouillon Clair* of our neighbours, improved with Rice or Pearl Barley, may also be allowed in weakly habits.

I have thus, Gentlemen, endeavoured to convey to you the impressions made on my mind by an attentive observation of facts passing almost daily before me; with but few traits of science, I am conscious, but wholly free from any preconceived hypothesis; I pledge myself for the accuracy of the facts stated; the reasoning I have attempted, I most willingly submit to your judgment and accustomed candour—fully satisfied, whether what I have advanced, communicate any useful information, or only prove the means of eliciting it from the ample stores around me.

* Frequent Ablutions should never be omitted in Fever; they must, however, be cautiously regulated as to their degree of coldness, varying this according to the prevailing heat, from quite cold to a slight degree of warmth.

ARTICLE VI.

On the Seat of Pulmonary Tubercle.

By [illegible]

In, for the last fifty years, the investigators of Morbid Anatomy have been more distinguished than their predecessors, in this department of Philosophy, for Philosophy it must still be called, notwithstanding the essential approaches medicine has had to mathematics, because exclusively from part of the means, by which her progress is fostered,—if the present age has, indeed, realized many important improvements in the art of Healing, these improvements may mostly be attributed to medical enquiries having latterly been directed by a more rational spirit of inquiry. Hence a more correct method of investigating Morbid Phenomena, and more consistent with the rules prescribed by the Immortal Bacon, has been observed by those who have acquired medical renown.

To all who pursue these professions zealously and intelligently, the above reflection is highly pleasing. For it must be but too evident, that the most assiduous endeavours to illustrate diseases, are often ineffectual; and the light that can be derived, by the best conducted experiments, and most laborious observations, sometimes perhaps confusion, instead of clearness, being rather an ignis fatuus to deceive and upset with us, than a bright and steady light, to direct us in our way to the temple of truth and sound knowledge.

Seeing, then, the uncertainties that surround us, should we not value highly, as indeed we do, all those who faithfully endeavour to establish facts; to separate known things from such as are unknown, or, at least, uncertain, and thus gradually to brighten the hitherto obscure parts of science?

Fortunately for the present age, there is scarcely a department of Medical Science, that has not been visited by individuals, whose endeavours have been directed by these principles. The effect of these exertions has been not only a positive advancement of the Science, but an universal desire has been kindled for further improvement, a presaging the greater perfection.

But, not to indulge longer in general reflections, which, however agreeable, lead not to the direct elucidation of truth, let us descend somewhat to particulars, and inquire whether, within our own time, much has not been done to advance our knowledge, in one distinct branch of Pathology—the diseases of the Thorax.

We may, then, call to mind the gradual development of our knowledge of these diseases; the greater degree of certainty with which, from year to year, we have latterly approached the contemplation of these affections. We may look to what has been accomplished by those distinguished Pathologists, Bayle, Laennec, and Louis; and thus contrast the state of our knowledge at

the present time, on these subjects, with its state, but a few years ago, as it is placed before us in the writings of Beddoes, Young, Duncan, and many others, equally eminent.

Such a review as the above is particularly cheering, for, in the short space of time which has elapsed between the appearance of the works of Beddoes, and that of the distinguished Louis, which was published during the year 1825; the principles of the Pathology of Pulmonary Affections, have become more fixed, and our Diagnosis of them considerably less obscure.

But though much has been done, much yet remains to do; and our increased knowledge, so far from producing any thing like apathy, will, and must, stimulate us to fresh exertions.

It is this consideration which has induced me to call the attention of the Profession to a subject of very great importance, as connected with a disease of frequent occurrence in this country; a disease which often baffles the best directed efforts of our Art. So that, in the language of one of the most classical of Physicians, "Si qua fides rationi mortuorum, quæ Londini quotannis vulgatur, tabes in illâ urbe longè maximas strages edit; quarta enim pars hominum, qui ad adultam ætatem perveniunt, illâ feruntur perire."

Every circumstance, therefore, connected with the history of Tuberculous Phthisis, as forming a conspicuous portion of Tabes, must be interesting, and, surely, accuracy in its Diagnosis should be considered of the last importance. In pursuing this subject, it will be my principal endeavour, to impress on the mind of the reader, the uncertainty of the Diagnosis, prior to the use of the Stethoscope; the improvements that have since taken place; and the objects which are still to be attained.

Old Method of Diagnosis of Tuberculous Consumption.

Tuberculous Consumption has always been considered a very insidious disease, and often makes considerable progress before any important affection is supposed to exist. The cough, at the commencement, is hardly so considerable as to claim notice; while the extenuated habit and loss of strength, with which it is attended, are often ascribed to other causes. But there is always some presumption that these are the incipient state of the Tuberculous Phthisis, when they take place between the age of fifteen and twenty-five, and are found to continue for some time, notwithstanding the use of those means which are in general successful in Catarrh. But the symptoms mentioned above, always give strong suspicion of Tuberculous Phthisis, when they occur with those who are of that fair complexion and delicate make, which is very common with such as are of a scrofulous constitution.

There is also reason for suspecting Tuberculous Phthisis, where the symptoms above mentioned have begun without any obvious exciting cause; such as injuries to the breast; where the pain, when it does take place, is not fixed to any particular spot; when dyspnæa does not occur, or, if occurring, is only distressing upon motion of, or any considerable exertion on the part of, the patient.

But above all marks, the Tuberculous Phthisis is characterized by the peculiarity of the cough, which takes place both at its commencement and during its course. The cough which attends the Tuberculous, is, as has already been said, of the short tickling kind, denominated a Tussicula. For a long time, it seems to proceed from some accidental irritation, and is attended either with no expectoration, or merely with the expectoration of a small quantity of mucus. Where a more copious expectoration does happen, it is neither viscid mucus, nor purulent matter mixed with mucus. The matter expectorated is often clear and limpid, with a reddish tint; and is rather a bloody sanies than even ill-conditioned pus.

The above rules for distinguishing the Tuberculous Phthisis, laid down by the venerable Dr. Duncan, who has been more precise and correct, in pointing out the different varieties of Pulmonary Consumption, and the signs by which they may be severally known, than any of our countrymen, fall far short of what is required to detect this insidious disease in its more hidden characters. To those who have had much experience of affections of this nature, I need but recal the very common occurrence of the almost entire absence, in this disease, of every one of the above-mentioned symptoms, excepting emaciation. To evince the truth of the above observation, and in further elucidation of it, as also of some other points of interest in the development of Tuberculous Growths, the following cases appear to deserve consideration.

Case I.—Tuberculous Phthisis, not attended with any symptoms of Pulmonary Affection. No Inflammation of the Pulmonic Texture.

W. M. aged 24, of a very pale complexion, was received into the Worcester Infirmary, on the 22nd of May, 1819. He complained of faintness, and some difficulty of breathing, when he made any exertion. He was giddy, and occasionally, but very rarely, coughed. He had no expectoration. Anorexia; considerable emaciation; pulse, 106, weak; tongue, clean and rather red; bowels, costive. He had been ill 13 weeks. The disease commenced with sickness and vomiting, which continued, with little intermission, to the time of his admission. A blister was applied to the Epigastrium, and he was directed to take Cathartic Extract, and a gentle Saline Aperient, three times a day.

28th—Appetite improved; Pulse, 100, weak; two dejections daily; vomits, almost every day, a yellowish bitter fluid. He does not complain of thirst, and has no cough; the dyspnæa is much relieved. He continued his medicine.

29th—He vomited more frequently, in other respects the same; the Blister to the Epigastrium was repeated.

30th—The vomiting was relieved; he did not complain of dyspnæa.

June 2nd—No return of vomiting, but the appetite is almost gone; has had a pill to take three times a day, containing one grain of Blue Pill, and three grains of Extract. Conii.

5th—He has only vomited once since the 2nd; bowels keep open.

9th—The vomiting has returned, and is very distressing to him; no dyspnæa; bowels open; pulse, 100; tongue clean, rather too red; the skin is very dry.

Utatur Balneo tepido omni nocte; Sumat Haust. Effervescentem 4tis horis.

15th—The vomiting has continued, and he is weaker. He takes scarcely any food; emaciates; is pale and cadaverous; no fever. Large doses of Brandish's Alkali were next given, which seemed, for a day or two, to check the disposition to vomit; this, however, as well as every other remedy, and he tried many, failed to procure him any continued relief. The vomiting, in a short time after the above report, became almost incessant. He did not afterwards once complain of cough; he was feverish, and had difficulty of breathing when he made any exertion. There was never any tenderness or tension of the abdomen; it was, on the contrary, very flat. No symptoms of Hectic Fever ever came on, but he seemed gradually to die of exhaustion; the stomach constantly rejecting every kind of food he attempted to take. There was nothing remarkable in the state of the bowels; they were, generally, in the latter period, inclined to be costive, but were readily kept active by gentle aperients, when the stomach would retain them.

Sectio Cadaveris.—The Membrane lining the Epiglottis, Larynx, and Trachea, was quite healthy. There was no fluid effused in the Bronchial Cells, and the Mucous Membrane lining them, had a perfectly natural appearance. The Pleura, covering the superior Lobe of each Lung, was adhering to the Costal Pleura, but in every other part of the Thorax, this Membrane was healthy; the adhesions were evidently not of recent formation. The Parenchymatous structure of the Lungs was much diseased, particularly the superior Lobes of this organ. On cutting into this portion of the Lungs, we found it, in short, to consist of one entire mass of hardened Tuberculous matter; and all appearance of the usual Cellular Tissue of the Lungs was, in this part, destroyed; there was not any part of this large Tuberculous Mass in a softened state, indeed, it was every where harder than Tuberculous Matter is generally found. The inferior Lobes of the Lungs were also thickly studded with Tubercles, none of which had softened, but they had not, in these parts, coalesced to the same degree as in the Upper Lobes, for we could, in these parts, recognize the Tubercles as imbedded in the Cellular Tissue of the organ, which, as was before remarked, was not the case in the Upper Lobes. It is also worthy of observation, that the Cellular Membrane had quite a healthy appearance; it had its usual spongy feel, and was not at all inflamed or thickened; neither was any fluid, either serous or sanguinolent, effused into it: it was, indeed, of a pale colour.

The Heart was small and its fibres pale, but there was no other deviation from its usual appearance.

Abdomen.—The Stomach was carefully examined, but we could not discover any tendency to Ulceration of the mucous surface, nor any other diseased state of this organ. The small Intestines appeared quite healthy. The Mucous Membrane of the large Intestines, was, in some places, slightly thickened, but there was no increased redness of any part of this tissue. The Mesenteric Glands were healthy. The Peritonæum was not at all diseased. The Liver was larger than natural, and of a pale colour, apparently from the deposition in its texture of Tuberculous Matter. There was nothing remarkable in the other Abdominal Vicera, nor in those of the Pelvis.

Observations.—This case, as connected with the History of Phthisis Pulmonalis, is well worthy of remark ; inasmuch, as the disease may be said to have passed through its course, without having, at any period, even towards its close, manifested symptoms denoting Pulmonary Disease; indeed, the existing symptoms, viz. constant vomiting, and very inactive bowels, led me to regard the diseased action, which was evidently proceeding in those parts, as the cause of the progressive emaciation. The slight cough with which the patient was affected, so frequently attends stomach irritation, that it did not have much weight in contradicting that opinion ; and, as that symptom, together with the slight Dyspnæa, nearly vanished after a few days' residence in the Hospital, it gave me increased conviction, that the incessant vomiting, so exhausting in its effect on the constitution, was depending on some change of structure in the Chylopoietic Organs. But what did Dissection reveal? A state the very reverse to that which the symptoms previously led us to conjecture ; for we found that *there was scarcely a vestige, in the upper Lobes of the Lungs, of healthy fibrous tissue ;* its place was supplied by hard Tuberculous formation. This state existed also, although in a less degree, in the other parts of this organ ; whereas, in the Stomach and Intestines, whose diseased condition the symptoms so strongly marked, every thing had nearly a natural appearance ; and, indeed, the whole of the contents of the Abdomen, if we except the Liver, were healthy. In seeking an explanation of this singular fact, the entire absence of Pulmonic symptoms, when so much disease was existing in the organ itself, we must keep in view two important circumstances. First,—that although the Tuberculous deposition had proceeded to so great an extent, the usual process of softening had not taken place ; the Tubercles were every where hard. And secondly,—that there was not, in any part of the tissue of the Lungs, any vestige of inflammatory action ; the portions of Lung that were free from Tubercles, were quite healthy.

Now it must, I think, be admitted, that all the active Pulmonary affections in Phthisis Pulmonalis, either arise from the softening of Tubercles, or from inflammation of the tissues of the Lung ; but as neither of these existed in M.'s case, the usual

symptoms were not produced. Hence arose the difficulty of the Diagnosis, for M. did not die in the manner usual in Pulmonary Consumption, by the softening of Tubercles; but these foreign bodies, by gradual accretion, filled up the structure of the Lungs, and incapacitated them, for converting a sufficient quantity of the chylous parts of the food into blood, to nourish the system. The irritability of the Stomach, we may designate, as one of those instances of sympathy which are so frequently occurring in the human system; and the consent, in this instance, is of a very intelligible nature; for, as the Lungs could no longer assimilate any new fluids that might be sent to them, the Stomach ceased to digest, from want of its due supply of blood.

This case also appears fatal to the doctrine of a renowned French Pathologist, that Tubercles are produced by inflammatory action. We have here the most extensive Tuberculous action, and no Inflammation. As this is manifestly sometimes, and indeed not very unfrequently, the case, is it not more consonant with right reasoning, to acknowledge our ignorance of the nature of Tuberculous disease, than to assign a cause for it, the existence of which is not essential to that of the presumed effect? That Tuberculous and Inflammatory Disease frequently co-exist in the same organ, we must all admit, but the conclusion is hasty, that they are linked as cause and effect.

The difficulty, in the above case, of discovering the diseased condition of the Lungs, arose from the attention being called to distressing symptoms arising in another organ, not itself diseased, and the usual signs of Pulmonic affection being absent. This occurrence claims a further consideration, as it has very frequently happened to myself, and doubtless to others, that whilst a diseased state of the Abdominal Viscera has been strongly marked by the most unequivocal symptoms, destructive changes have, at the same time, taken place in the cavity of the chest, from Tuberculous Degeneration, without any, or scarcely any, pulmonic symptoms arising to denote such a change.

It is of the utmost importance to dwell upon such considerations as these; the obscurity of complicated forms of disease, is one of the great obstacles to the advancement of Medical Knowledge; and it serves greatly to enhance the value of any means by which the discrimination of disorganization of the viscera of the several cavities of the body is facilitated. There can be no question that if the above case had occurred since I became acquainted with the important aid that may be afforded to our Diagnosis of the Diseases of the Chest, by Auscultation and Percussion, and I had applied them to elucidate this obscure affection; the existence of much Disease in the Lungs, must have been evident from the time of the Patient's admission into the Infirmary; and in that case, the treatment, if not more successful, which it probably might not have been, would, at any rate, have been conducted on a more rational plan. Let us, therefore, pursue this investigation, by adducing other cases, in which obscurities similar to the above have existed.

Case II.—Chronic Disease of the Peritonæum. Excavation of the superior Lobe of the left Lung.

In June, 1819, I was consulted on account of a Young Gentleman, aged 14, who had, for many weeks, been affected with pain and tenderness of the Abdomen, particularly of the lower part of it. The Bowels, for the same period, had been particularly irregular, sometimes costive, at others lax; but on the whole, the former state had more prevailed. The Pulse had been generally quick and hard, and the Tongue morbidly red. He had also progressively emaciated, and was rather feverish every evening. The Urine was high coloured and rather scanty. On examination of the Abdomen with the hand, it was found much fuller than usual, very tender. No fluctuation, however, could be discovered. The ankles became œdematous in the evening. To my inquiries relative to the state of the Chest, the reply was, that he had always been particularly free from cough, and, as a child, had never suffered from pectoral complaint. He respired freely, and his breath was not hurried by the usual exertions. He ascended the stairs without being oppressed.

From the history of the case, my attention was directed to the abdominal symptoms, and I thought it probable, that there was disease to a considerable extent in the Mesentery, as well as Chronic Peritonitis, and I treated the youth accordingly. Leeches were applied to the surface of the abdomen, and repeated every third day. This was followed by a mitigation of the pain and tenderness of the Abdomen; after which a large Blister was applied. The Diet was directed to be mild and nutritious, and he took two grains of Blue Pill, and two of Extract of Henbane, night and morning.

Under this plan, the abdominal symptoms became less urgent. The pain, tenderness, and tension, were much relieved. The Young Gentleman, however, did not, in other respects, improve; he gradually became weaker and more emaciated; the Pulse was quicker. There came on regular evening Paroxysms of Fever, and night Perspiration, and he died exhausted, six weeks after I first visited him. He never complained of any cough, to the time of his death, neither did his attendants observe that he coughed; but, for the last fortnight, I occasionally observed him to do so slightly, but he had no other pectoral symptoms.

Sectio Cadaveris.—The body was, to the last degree, emaciated.

Abdomen.—On opening this cavity, the Intestines were found generally adhering together, and to the Peritonæal Lining of the Abdominal Muscles. There was not discovered any serous effusion, and the adhesions did not appear to be of very recent origin. In several parts of the Peritonæum, small Tuberculous Depositions were seen, more particularly on the surface of the Serous Membrane, which covers the Liver. The Liver was paler than natural, and enlarged. Some of the Mesenterie Glands

were enlarged, but none of them to any remarkable degree. The Stomach was healthy; nothing worthy of notice appeared in the Mucous Membrane. The Mucous Membrane of the small and large intestines was not diseased, excepting that lining the Cæcum, which was in some degree thickened.

Thorax.—The Mucous Membrane lining the Larynx, Trachea, and Bronchia, was free from disease. There was softened Tuberculous Matter in the left Bronchos. The right cavity of the Thorax contained a small quantity of serous fluid, but there were no adhesions of the Pleura. The Cellular Membrane of the right Lung shewed no mark of inflammatory action. It had lost none of its usual elasticity, nor was there any congestion of its Blood Vessels. There were some Tubercles, but none of them of a large size, cheesy in their nature; this was more especially the case in the superior Lobe of the Lung. The left cavity of the Thorax contained some serous fluid, and there was very general adhesion of the Pleura, but not of recent occurrence. The superior Lobe of this Lung was almost entirely occupied by Tubercles, which had coalesced, and the centre of them had softened, forming a cavity nearly full of Tuberculous Matter, which communicated with the Bronchia. The inferior Lobe of this Lung also contained many Tubercles, some of large size, but none of these had softened.

Observations.—The progress of this case points out, in a very striking manner, how uncertain are the natural signs of disorganization proceeding in the chest, even when it is of such a nature as completely to destroy the texture of the Lungs. In all the early parts of the progress of this affection, the symptoms of Peritonitis alone arrested attention; and after these, by the adoption of appropriate remedies, subsided, there seemed to be a cessation of disease; but, notwithstanding these favourable appearances, the emaciation proceeded; even at this period, no symptoms of any importance shewed themselves, and a suspicion of the existence of mesenteric affection now presented itself. Towards the close of life only, did I observe any cough, and then it was of so trifling a nature, as not to be noticed by the patient or his friends. He never was known to expectorate any thing, for the cough was of a dry, hacking, trifling kind. The absence of all expectoration was the more remarkable, because, on examination after death, we met with an excavation in the left lung, only in part filled with softened Tuberculous matter, and portions of this softened Tuberculous Matter were found in the Bronchial Cells, on the left side. Are we to conclude from hence, that the softened Tuberculous Matter had only found its way into the Bronchia a short time previous to death? That may be the explanation of the fact; at any rate it is not the only instance I have known, in which, previous to death, no Tuberculous Matter has been expectorated; and yet, it was discovered on Dissection, in the Cells of the Bronchia. I attribute the perfect absence of symptoms of Pulmonic Disease, in this case, as in

the foregoing, to the freedom of the Air-cells, Bronchia, and Cellular Membrane from all inflammatory action. It was an instance of pure Tuberculous Degeneration, unattended, throughout all its stages, by Inflammation. If the newly discovered means of distinguishing the diseases of the chest had been here employed, no doubt would have existed from the time that the Patient was placed under my care, that disease had gone on in the left Lung, and the formidable nature of the affection would have been at once apparent.

Although I am aware that the patience of the reader may be exhausted by my so doing, I shall still follow up the present line of illustration, by the adduction of another case of Tuberculous Phthisis, unattended with the customary symptoms.

Case III.—Tuberculous Excavations; Diseased Liver; Jaundice; Swelled Legs.

June 6, 1823. A Gentleman, between 50 and 60, a man of regular habits, but always delicate, has, for several years, been occasionally subject to Jaundice; for the whole of the past year he has been falling away in flesh and strength. His skin has been usually yellow; his stools pale; his urine high-coloured and rather scanty. He has been feverish at night, and the skin generally rough by day; he has, however, continued to take his customary exercise of riding about his farm; latterly, the ankles have swelled in the evening, and towards morning, a sweat has broken out. He has lost all appetite, and very frequently vomits his food. Pulse, 100. He has no cough, and walks about without being distressed in breathing. He has no pain in any part of the chest, but complains of some pain and tenderness in the right Hypochondriac region. There is slight fluctuation in the abdomen. He has been under Medical care for some time past, and has taken Mercurials freely, but with no benefit to the Icteric symptoms.

There seemed no hope of any treatment in this case being successful in removing the disease under which he was evidently sinking. I, however, proposed a Seton in the Epigastric region, and ordered a Diuretic Mixture to be taken three times a day, and 10 grains of compound Rhubarb Pill at bed time.

I did not see this Patient again, but I understood, from his Medical attendant, that he continued to grow weaker and thinner. He lived about six weeks after I visited him, and never betrayed any symptoms of Pulmonary Disease, excepting a slight cough within ten days of his death. Diarrhæa came on during the last fortnight of his life.

Sectio Cadaveris.—The Emaciation had proceeded to the last degree. There was some serous infiltration of the lower extremities. The Epiglottis, the Larynx, and the Windpipe, were in a natural state.

Chest.—The left Lung adhered intimately to the Costal Pleura, throughout the whole extent of the upper Lobe. There was a

Tuberculous excavation discovered in this part of the Lung, not of a large size, and containing but a small quantity of Tuberculous Matter. In the other Lobes of the Lungs there were many Tuberculous Granulations, semi-transparent, and greasy. They had not, however, any of them softened, neither were they closely connected together. The right Lung also contained Tubercles, particularly its superior Lobe, but none of them had attained any size. They were, for the most part, semi-transparent, and the centre of them had not softened.

Abdomen.—There was about a quart of serous fluid in this cavity. The Intestines were, in some parts, united together. The Liver also adhered to the Peritonæum, lining the Muscles, and the Peritonæum in every other part was thickened. The Liver was larger than natural, and of a pale colour. The Spleen was likewise enlarged. Gall Bladder empty.

The Stomach was healthy. The Mucous Membrane of the small Intestines was, in many parts, thin and soft. That of the large Intestines was less softened, and there were no ulcerations in any part of the intestinal Canal.

Observations.—There can be no doubt, from the extent of the disorder of the Lungs in this case, that disease must have existed there for a long time previous to death; and yet, throughout the long course of the illness, the symptoms never denoted any Pulmonary affection. The only obvious cause for the gradual decay of this Patient, was the diseased condition of the Liver, the symptoms of which were very well marked.

The foregoing instances appear to me to exemplify, in a striking manner, that the most destructive changes may take place in the structure of the Lungs, without any corresponding symptoms being produced. The imperfection, therefore, of the ordinary modes of distinguishing such affections, must be apparent; but such facts form but a small part of those in which the Diagnosis of Pulmonary disease is erroneous, for it occasionally happens, that we are led, by existing symptoms, to suppose that Tuberculous disease has gone on to a very great degree in the Lungs, but the issue not very unfrequently seems to prove our conjecture to have been erroneous; thus exposing us to the censure of having raised fears in the friends of our Patient, beyond the real danger; or having attributed to Tuberculous Degeneration, symptoms that principally, if not solely, depended on Chronic Inflammation. Some remarkable instances of this nature have fallen under my observation, which, by contrast with the foregoing, place this point of Pathology in a very clear light.

Case IV.—Supposed Pulmonary Phthisis, with severe symptoms, terminating favourably.

In November, 1822, I was called to a Young Lady, who had, for some time, been growing very thin, and who, for six months previous to my visit, had been affected with a Cough, which was

frequent and troublesome, particularly in the morning, on first rising. It was not attended with any expectoration. The face and hands were generally hot in an evening, and this heat was preceded by slight shiverings. Towards the morning a perspiration broke out. The Pulse, in a morning, was 100; in an evening, 120. She had frequently a pain in the left side of the chest, aggravated by coughing. The Tongue was much loaded, and the Fauces were red. The Stools were offensive, and rather of a clay-colour. A little exertion hurried the breathing; she was made perfectly breathless by going quickly up stairs, and a violent fit of coughing was produced by it. The Catamenia were regular. The disease had proceeded insidiously, and was not attributed to any particular cause.

The Young Lady was immediately placed in two rooms, communicating with each other; the temperature of which was desired to be kept, as nearly as possible, at 60° Fahrenheit; from these rooms she was not to be removed, until the month of June in the following year. Leeches were recommended frequently to the painful part; but, as a measure more likely to be permanent in its effects, a Seton was also placed in the left side of the chest. To improve the condition of the bowels, a dose of Calomel and Jalap was directed every third morning; and fifteen drops of Tincture of Colchicum were given three times a day. The Diet was directed to be of pudding and vegetables, and an entire abstinence from animal food was enjoined.

Such was the commencement of the plan by which this formidable disease was attacked. It, however, remained for some time wholly unaffected by these, or by any means of a similar nature that could be adopted. The symptoms, in fact, rather grew worse than better, particularly the night perspirations, which, at one period, were very copious. After a time, however, these were checked, apparently, by ablution with vinegar and water, and friction, to which she was daily subjected.

In the month of February, 1823, the symptoms were much aggravated, owing to a slight cold that was then taken. The cough became more troublesome, and she had slight Hæmoptysis. The evening fever was more strongly marked, and she was evidently thinner. Venesection was twice had recourse to, on this occasion, and the blood was found to have, in a very great degree, the appearance so common in inflammatory disease. The violence of the cough, and the pain in the side, were abated by this means, and the Hæmoptysis did not recur.

My Patient, after this attack had subsided, appeared gradually to mend. Her diet was strictly attended to; Purgatives were occasionally administered, and she took Colchicum and Digitalis three times a day. The Seton was not removed, and continued to give a pretty abundant discharge. It was, however, also necessary occasionally, on account of the recurrence of pain in the side, to apply Leeches to that part.

As the Summer approached, there was manifest improvement in every respect. The Cough became less troublesome; the Fever diminished; the Pulse was slower; she became fatter. When the weather allowed, I advised gentle horse-exercise; and she was, in the beginning of July, removed to Malvern, the genial and invigorating atmosphere of which place, had a strikingly beneficial effect. My Patient recovered her strength rapidly; by September there was scarcely any cough remaining, and the strength had nearly returned. Nor was this, I am glad to add, a mere temporary cessation of the formidable symptoms. From the above time to the present, this Young Lady has not had any return of alarming symptoms. Occasionally, on taking cold, the Cough returns, but not with any violence. She has been able, each succeeding Winter, to go into the open air, without any mischief arising from it; and is now in good health.

Case V.—Severe symptoms of Pulmonary Phthisis, in a Young Lady, terminating favourably.

A Young Lady, aged 14, tall and very slender, who had always enjoyed good health, was taken ill with Measles, in April, 1820. The disease was very severe; the eruption very full; the attendant Inflammatory Fever ran high; and the Cough, from the commencement of the disease, was harrassing. The difficulty of breathing, also, as the disease proceeded, became very considerable. In consequence of the severity of the symptoms, it was thought advisable to treat the case most strictly on the Anti-phlogistic Plan, and blood was twice taken from the arm, and once locally, before the eruption subsided. The passing away of the eruption was not followed by any abatement of the Pulmonary symptoms. These, in truth, continued in such force, as to call for repeated Venesections; and the persevering use of nauseating doses of Tart. Emetic. By strict attention, however, and by perseverance in the necessary measures, we succeeded in subduing, in a great degree, this alarming attack. The Young Lady, though miserably thin and ill, so far recovered, as to be able to get out during the Autumn, and, by a visit to the Sea side, the constitution seemed considerably invigorated, and the Pulmonary disorder much subdued. The flesh, also, in a great degree, returned.

But these bright prospects only continued with the fine weather, for, as Winter approached, she was again thinner, and the Cough became of a hacking nature. Very little exertion was followed by bodily fatigue, and, in walking up rising ground, the breath was often affected. There was generally a slight shivering towards the evening, and, at night, feverishness, came on. The Pulse varied much; in the morning, in the recumbent posture, it was 80, sometimes irregular; when the evening and night approached, it became much quicker, and was not unfrequently as high as 110. Towards the end of the month of December, Hæmoptysis came on, after a slight exertion in dressing; full a dessert spoonful of blood was expectorated.

Venesection was now instituted, and a mixture of Tart. Emetic and Digitalis was given every three hours. The most perfect quietude was enjoined, and the Young Lady was directed to live, as nearly as possible, in a temperature of 60°. Two rooms were accordingly fitted up for the purpose, to which she was confined. The Diet was made as light as possible. No animal food was allowed, and abstinence was enjoined in the use of vegetables and farinacea. The perfect quiet, and the Anti-phlogistic means thus adopted, had the effect of arresting the Hæmorrhage ; but to it succeeded a more frequent Cough, a pretty copious Muco-purulent expectoration, and a decided increase of the evening paroxysm of fever. There was, also, in the morning, a disposition to sweating ; the breathing was hurried on very slight exertions, and the Pulse was never felt below 100. There was, also, pain in coughing, in the left side of the chest. The emaciation evidently proceeded.

In this unpromising aspect of affairs, we determined still to persevere in the spare diet. A Seton was placed in the left side. Alterative doses of Blue Pill were given every third night, and Tincture of Digitalis and Colchicum three times a day. She was still confined to one temperature. This plan was continued, with slight variations, during the months of February, March, and April, in which period, the above unfavourable symptoms prevailed in so remarkable a degree, that the most desponding views were taken of her case by all her friends.

Happily, towards the end of May, there was a mitigation of some of the more dangerous symptoms. The breathing was less hurried on exertion ; the cough was not so troublesome, and the expectoration diminished in quantity. The pulse, too, became slower, and there was some little return of flesh. As the Summer advanced, it was truly pleasing to observe, that all the worst symptoms vanished, and, by the close of the month of June, the Young Lady was almost in a convalescent state, having been enabled, early in the above month, to leave her apartments, and to take carriage-exercise in the open air. During the Summer, the flesh and strength returned ; and though the cough was still occasionally troublesome, it was not accompanied by pain in the side ; nor was there any evening fever. An excursion to the Sea side, in the Autumn, seemed still further to confirm this amendment, and she returned home, in the beginning of October, in tolerable health, though thin.

I advised that the approaching Winter and Spring should be spent in two apartments, and that on no account should the Young Lady be exposed to the vicissitudes of our Winter. This advice was complied with, and the Winter was passed without a recurrence of any severe Pulmonic symptoms ; although, in the Spring, there was an inflammatory attack on the Chest, which lasted about a fortnight, and required the employment of Venesection, and other Anti-phlogistic measures.

Since that time, the Young Lady has gradually recovered her health, and at present, although delicate, is enabled to enjoy herself; and, for the two last Winters, it has not been necessary to confine her to the house.

Observations.—In both of these cases we had the most formidable catenation of symptoms denoting severe mischief within the cavity of the chest, and both of them occurring at a period of life when such attacks more usually prove fatal; yet both terminated favourably. Whence, then, it may be inquired, the disproportion in these and the foregoing cases, between the urgency of the symptoms and the degree of danger? for in cases 1, 2, and 3, the symptoms denoting disease in the chest were trifling, although they ended in death: but in cases 4 and 5, the most alarming symptoms of Phthisis Pulmonalis terminated in health.

The difference I presume to have arisen from the existence of inflammatory action, to a considerable extent, in the latter cases, though scarcely at all in the former. Hence all the severe symptoms, such as Cough, Dyspnæa, Hæmoptysis, Muco-purulent Expectoration, were the result of Inflammatory action—not of Tuberculous Degeneration. It would have been of the utmost importance to have ascertained that such was really the state of things, during the progress of the illness, because the Medical attendant might then have encouraged the friends with hope of the Patient, under the most adverse circumstances. The Stethoscope would probably have greatly assisted the Diagnosis, by shewing that no Tuberculous Excavations existed, and, consequently, that the symptoms must be attributed to some other cause.

It may not be here irrelevant, although by so doing I shall be digressing from the main object, more clearly to indicate, that the more obvious symptoms of Pulmonary Phthisis seem to arise as the effect of slow Inflammatory Action, and are not the offspring of Tuberculous Degeneration; which, when it takes place simply, and is not accompanied with Inflammatory Action of the several tissues of the organ, does not give rise to those marked symptoms either of pulmonary or general disturbance, which otherwise occur. Whereas, where we meet with Phthisis running quickly through its stages, and speedily passing on to a fatal termination; throughout the whole course of the disease, the symptoms of pulmonary and general irritation are very decided, particularly the cough, difficulty of breathing, and fever. In the examination of such cases, after death, it will generally be found that the effects of inflammation of the tissues of the Lungs, are much more conspicuous than those from Tuberculous Degeneration. Indeed, under such circumstances, it has frequently happened, within my observation, that, whilst, in all the tissues of the Lungs, the destruction from slow Inflammation was most obvious, there were no Tubercles of a larger size than the common miliary Tubercles, and none of them had softened.

[TO BE CONTINUED.]

ARTICLE IV.

Contributions to Pathology.

BY A PHYSICIAN.

Medical Science is chiefly advanced in two ways; namely, by accurate clinical observations, and by a minute inspection and report of post mortem appearances. By the first, Symptoms, and the power of Medicines and regimen in controlling, modifying, changing, or removing disordered actions, are ascertained. By the second, both the causes and the effects of morbid action are elucidated. No opportunity should be lost of thus improving the Medical Art, for I am convinced that much of the precision and correctness which distinguish the Theory and Practice of Medicine, of late years, has been attained by the union of Clinical Reports with the investigations of Morbid Anatomy.

In the narration of the cases, it is of consequence not to dwell with wearisome prolixity upon irrelevant matter; and to state the treatment briefly, but clearly. In reporting the Morbid appearances observed upon dissection, it is unnecessary to distract the attention, by dwelling upon minor points, unconnected with the Pathological subject the history of the case is designed to illustrate. The reader is little benefitted when his attention is fatigued.

The writer of these observations will confine himself, as much as possible, to the details of his practical experience. This, he considers, will be most accordant with the principles, and will best promote the object, of the Journal.

"By observation, facts are minutely and distinctly impressed upon the mind; by analogy, similar facts are connected; and, in the progression of knowledge, observation, guided by analogy, leads to experiment; and analogy, confirmed by experiment, becomes Scientific Truth."*

Diseases of the Chest.

The following case is interesting, from its proving at how very early an age the Lungs may be extensively Tuberculated.

June 26, 1821, I examined the body of a female infant, three months old, who had died the same morning, and who had never been altogether free from Cough and Dyspnæa, with more or less wheezing and rattling, from the time of her birth. The pressure of a hand upon her Chest or Epigastrium, in nursing her, always appeared to give her pain. The Muscles of the child had always felt lax and flabby, and her complexion had always been of a pearly whiteness. She was born fat, and had not gained or lost fat much from the time of her birth. The day before her death, the Cough and Dyspnæa were much aggravated, and the child cried constantly. A few hours before her death, there was con-

* Davy, in Introd. to Elem. of Chem. Philosophy.

siderable rattling in her breathing. The mother, till the day before the child's death, had no Medical advice for her, but had given her, what she called, Soothing Syrups, for her cough.

Sectio Cadaveris.—The Body was not much emaciated. Both Lungs were filled with firm white Tubercles, the greater part of them not bigger than pins' heads, though some of them were considerably larger, and a very few exceeded the size of a horse-bean. When the Tubercles were cut into, they were white and firm in their substance. We did not discover any that were softening in their centres. The right Lung was free from adhesions, but the left was strongly and generally adherent to the Pleura Costalis. The Pleura Pulmonalis was thickened, but without marks of recent acute Inflammation. The left Lung was so consolidated by the aggregation of Tubercles, that a large portion of it must have been, for a long time, impervious to air. It did not collapse, upon opening the Chest, and it readily sank in water. The same Tubercular disease occupied the site of the Thymus Gland, and involved the Bronchial Glands generally. The Bronchia were loaded with a thin fluid, but were not inflamed. Imbedded in the left Lobe of the Liver, there was one small Tubercle, resembling those in the Lungs. The Glands of the Mesentery were generally enlarged.

The mother, a tall well-made woman, aged 34, said she always had a cough during her pregnancies; and that her breath, at the best, was short; but made no other complaint. Her Pulse was 80, and she appeared in good health. None of her family ever had Consumption. Her father and mother, and several brothers and sisters, were all alive and in good health. The father of the child was healthy, and none of his family ever shewed any tendency to diseased Lungs.

This couple lost another child æt. 3 years, in the December following, from Tabes Mesenterica. Upon examining the body, after death, extensive Tubercular disease, with accretion of the Serous Membranes, was discovered in the Abdomen.

Case II.

In the following case, two changes of structure were going on at the same time, in both Lungs, constituting a rare but aggravated, form of Phthisis. The Black Degeneration has been called by the French Pathologists, Melanosis; and sometimes appears in spots, like the white Tubercle, but oftener in irregular diffused patches. In the following case, it was the diffused Melanosis that was complicated with the white Tubercle.

On the 13th of August, 1822, I examined the body of W. P. æt. 36. His parents were both alive and healthy. He had lost two brothers and a sister when they were infants. He was the only surviving child of his parents, and had resided, for many years, in a low damp situation, in a narrow street. He had the Small-pox severely when an infant, and, from the age of 15, he had been troubled, more or less, with Dyspnæa and short Cough.

His habit was spare. His employment had been chiefly at the lathe in the china manufactory. He had always borne a good character for sobriety and temperance. A year before his death, I first saw him, and had continued to visit him occasionally afterwards. His Bowels were irregular in their action, and the Stools occasionally very dark and fetid. He had pain on pressure, in the right Hypochondrium; much Cough, and Dyspnæa. He expectorated a white matter in heavy lumps, sometimes mixed with a blackish green matter. Latterly this matter increased in quantity and blackness. He said it tasted bitter. His countenance was, throughout the whole of the disease, very sallow. He had well-marked Hectic Fever, and his emaciation was extreme. The last six weeks of his life he was confined entirely to his bed.

Sectio Cadaveris.—The Trachea and Bronchia contained matter similar to that which he had expectorated. The mucous surface shewed signs of Inflammation. The Lungs did not collapse. The left Lung was generally adherent to the Pleura Costalis. In the Sac of the right Pleura, there was nearly a pint of fluid, of a blackish green colour, and transparent. The colour of both the Lungs was nearly black, speckled with white. When cut into, they appeared loaded with white Tubercles in different stages. The smallest Tubercles were the hardest. They were intermixed with patches of a deep black, fibrous matter, which imparted the dark colour to the Lungs. In the lower Lobe of the left Lung, was a large Vomica, filled with black and white matter. There were many smaller Vomicæ in different parts of the Lungs, some containing only white matter, and some black and white. The softening of the Tubercles was from the centre to the circumference. The Bronchial Glands were enlarged.

The Liver was mottled, of a dirty yellow colour, firmer than natural. The Glands of the Mesentery and Mesocolon were much enlarged. Some of them were of the size of a walnut. In some of these Glands were found small white Tubercles; and similar Tubercles were found upon many parts of the small Intestines, in clusters, immediately beneath the Peritoneal Coat, through which they were conspicuous.

Case III.

I have little doubt, but that, in the following case, the disease was, in the first instance, Bronchitis, and that the induration and ulceration of the Parenchyma of the Lungs, were secondary states of diseased action, propagated from the ramifications of the Bronchia, to the surrounding tissue. The entire absence of Tubercles is remarkable in the case, as also its termination by Hæmoptysis, which suddenly suffocated the patient.

Sept. 26, 1823. Mrs. G. æt. 46, married, has had several children; was attacked with the ordinary symptoms of Catarrh, two years ago. She had no pain, at that time, in any part of her

chest, but great tightness in the upper part of it, and pain in her head, over her eyes. These symptoms gradually became worse. She slept tolerably well at night, but expectorated largely, with much coughing, upon first moving in the morning. This state of symptoms continued two months, or more, during which time she had not much fever, and no sweats. At this time, she was recommended, by a Medical man in London, good living and Port-wine. Her cough then became worse, her breath shorter, she had more fever, and began to lose flesh very fast. She then lived on farinaceous and milk diet, with some benefit; but she never lost her cough, tightness of the breath, or morning expectoration. About 2 months ago, her cough began to be incessantly troublesome. She has, ever since, had very restless nights, burning hands and feet, succeeded by profuse sweats towards morning, and the expectorated matter has become more lumpy and less ropy. She took the advice of a Medical man upon this change of symptoms, who bled her twice from the arm, and gave her some purgative medicines. This did not alleviate her symptoms. She lies easiest on her right side. Her Pulse is 120 in a minute, hard, and very small. She is very thin and pale, and has missed her Catamenia the two last times. On percussion, the left side of the chest sounds more dull than the right. With the Stethoscope, there is much wheezing and rattling audible on both sides of the chest. She is pectoriloquous on the right side, but not on the left. Towards night, her ankles swell a little. Her appetite is good, and her tongue clean. Her temper irritable. She has slight Diarrhæa. She became gradually worse till the 12th of October following, when, in a fit of coughing, her mouth and nostrils were suddenly filled with a gush of blood, and she dropped back in her chair and expired.

Sectio Cadaveris.—The Trachea and Bronchia were full of frothy scarlet blood. The Mucous Membrane of both shewed signs of inflammation, and was spotted with small superficial ulcers. In the lower Lobe of the right Lung, was a large irregular cavity, containing some fetid matter and blood. Both the right and the left Lung were very firm, and did not collapse on opening the Chest. Several portions of both Lungs had the consistence and appearance of Liver, and sank readily in water. The Air Tubes were all filled with a pink fluid. Neither of the Lungs contained any Tubercles. The Villous Coat of the small and large Intestines, had, in several places, patches of small clean superficial ulcers.

Case IV.—A remarkable Disease of the Pleura.

Miss B. C. æt. 18, in the Summer and Autumn of the year 1823, complained of shortness of breath, and occasional flying pains in the chest. She coughed, occasionally, very violently. The cough was very loud, hard, and dry; and caused head-ache. She had constant thirst, and great craving for cold water, of

which she frequently drank copious draughts. Her Pulse, at this time, was between 80 and 90 in the minute, and the cough seized her about every quarter of an hour at first, day and night. It afterwards became much more frequent. In the Winter, her symptoms were much aggravated. She coughed every five minutes, day and night. The cough was very teazing and loud, and greatly distressed her head, producing urgent pain over the eyes. The Pulse became quicker, and she was very low-spirited. These symptoms continued with little alteration till her death, which occurred in November, 1824. Towards the last, she complained more and more of her head, and, for the last three weeks of her life, she vomited almost every thing that she swallowed. She became comatose twenty-four hours before she died, and remained in a state of complete insensibility to the last.

No treatment appeared to be of the slightest service to her, from the first to the last. Bleeding, general and local; Blisters to the Chest, Epigastrium, and right Hypochondrium. The Tartar Emetic Ointment, Setons in different parts of the Chest, Mercurial Purges, alterative doses of Mercury, Digitalis, combinations of Diuretics, Demulcents and Anodynes for the cough, and a regulated temperature in two apartments, were all tried in vain; nothing that was done ever appeared to afford her a moment's relief. Towards the last, the poor sufferer, in the most abject state of despair, prayed earnestly for death as her only chance of relief from incessant restlessness, and pain, and coughing.

Sectio Cadaveris.—Nov. 30, 1824. The Brain was firmer than usual. There was slight effusion of fluid between the Arachnoid Membrane and Pia Mater. The Lungs did not collapse. There was half a pint of bloody serum in each Sac of the Pleura. The Pleura Costalis of both sides was very red throughout, the surface of it had a pulpy appearance; the Membrane was thickened and minutely injected with blood. On passing the finger over the Pleura Pulmonalis, small Tubercular rough substances were discovered. They felt very hard and sharp, and were situated immediately beneath the Membrane. They were surrounded by an Areola of soft black matter, in the centre of which was a substance resembling hard sandy grit, of the size of a pin's head. The greater number of these Tubercles were situated in the upper portion of the right Lung, and the lower part of the left. The Mucous Membrane of the Trachea was minutely injected with blood, but its surface was remarkably dry. The Bronchia were nearly double their natural size. There were three ounces of clear fluid in the Pericardium. The Heart was small and flaccid.

The cardiac portion of the Stomach was very red, and there was some recent coagulated lymph upon its serous coat. The rest of the abdominal and the pelvic viscera were quite healthy.

Some portions of the gritty substances, separated from the black matter which surrounded them, were found to dissolve readily in dilute Muriatic Acid, without effervescence.

When a solution of Oxalic Acid was added to the above solution, first further diluted with Distilled Water, a copious white precipitate was formed. The gritty substance was, therefore, most probably, pure Phosphate of Lime. Dr. Baillie says, "It sometimes happens, although I believe rarely, that a portion of the Pleura is converted into Bone. This consists of a thin plate, and sometimes extends over a considerable surface of the Pleura. In all the cases I have seen, the bony matter seemed to me to be exactly like ordinary bone. I have never seen it form a thick irregular knob, but always a thin plate." He coneludes his observations on this subject with the following remarks. "In the cases which I have observed, this process (of Ossification) seemed not to have been attended with much inconvenience. There was no inflammation found in the Pleura surrounding the bone, nor in the substance of the Lungs under it. *It is reasonable to think, however, if the bone were to grow irregularly, so as to form sharp processes, that it might excite inflammation, and lay the foundation of a fatal disease.*"—*Morbid Anat. 4th Edit. pp.* 58, 59.

It appears to me that, in Miss B. C.'s case, the irregularity, hardness, and sharpness, of the earthy deposits beneath the Pleura Pulmonalis, destroying the smoothness essential to its gliding easily against the Pleura Costalis, produced, by constant mechanical irritation, that inflammation of the latter membrane, the effects of which were so marked by the symptoms during life, and by the state of the parts discovered after death.

The very great enlargement of the Bronchia, was, perhaps, the effect of the protracted, violent, and frequent cough.

ARTICLE V.

On the Removal of Loose Substances from the Knee-Joint.

BY CHARLES AVERILL, ESQ.

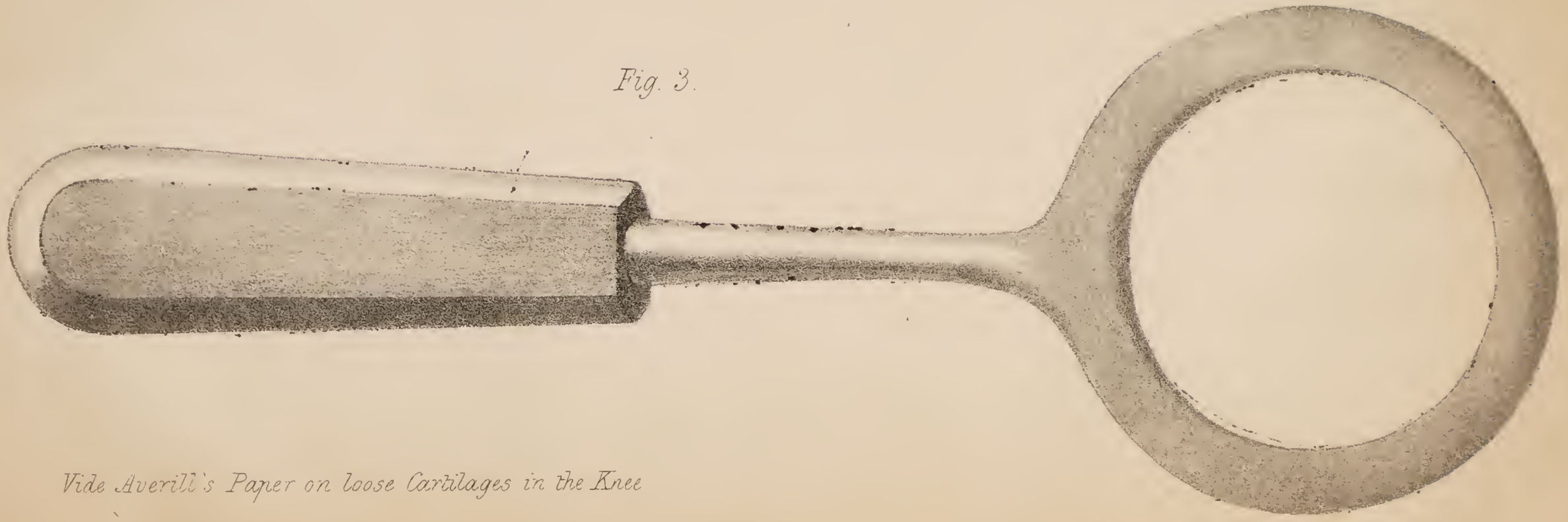
Surgeon to the Casualty Hospital, at Cheltenham.

PROBABLY there is no disease to which the Knee Joint is subject, which produces more excruciating pain, for short intervals, than that occasioned by Cartilaginous or Bony Substances lying loose in its cavity.

The following observations, therefore, on the removal of these bodies, I trust, will not be considered unimportant, presuming that that object may be facilitated by the means they suggest.

When it is ascertained that one or more of these substances are lying loose in the cavity of the Knee Joint, we have the choice of two modes of practice, which may be called the Palliative and the Curative. The former is the method proposed by the late Mr. Hey, of wearing a bandage, or laced knee cap, so as to confine the substances in one spot, and, thereby, prevent its giving pain, by getting between the extremities of the bones

Fig. 3.



Vide Averill's Paper on loose Cartilages in the Knee

Drawn on Stone for the Midland Medical & Surgical Reporter, August 1868, by Engelmann, Graf Coindet & Co 92, Dean St Soho

forming the joint. This practice, I should imagine, is not applicable to those cases in which there are two or more substances present; especially if they differ considerably in size, and if the patient's occupation subject him to hard labour or severe exertion. In such cases, relief may be afforded by the operation of removing the substances; but this, from its necessarily laying open the joint, as well as from its having been, in some instances, unsuccessfully attempted, has always been considered a serious undertaking.

The only difficulty that, as far as I am informed, has been found in accomplishing the operation, even when there are two or more substances present, is to fix them, whilst the operator cuts into the joint, so that he may extract them readily, after the incision is made. This difficulty, which is owing to the polished surfaces of the loose bodies, and the lubricating nature of the Synovia favouring their slippery passage from one part of the joint to another, obliged the Surgeon to relinquish the operation, even after he had cut into the joint, in a case of this kind, which was lately related to me by Mr. Thomas Christie, an apprentice of Doctor Ballingall's, Surgeon to the Royal Infirmary, in Edinburgh. In this case, the operation had been twice attempted, by different Surgeons, without success; and the patient afterwards went into the Edinburgh Infirmary, where the substance was removed by Mr. Allan.

Aware of the above facts, I was induced to consider how I might obviate the difficulties I have stated, and have been gratified to find that I could do so by very simple means. When the patient, whose case is here introduced, came under my care, I procured an iron ring, represented in the Plate, and found, upon trial, that the loose substances in his Knee Joint were to be easily fixed by it, so securely, in one spot, as could leave no doubt in my mind of their being easily extracted. The result will best appear in my notes of the case, which are as follows.

George Fluck, aged 30, by trade a gardener and nurseryman, was admitted into the Cheltenham Casualty Hospital, August 16, 1825, when he gave the following account of himself.

He had, for several years, thought there was a degree of weakness in his knees, particularly when he was carrying any heavy weight. Between two and three months since, after he had been kneeling for some time in the garden, at work, he was attacked with considerable Inflammation and Swelling in the left Knee, for which he used an Embrocation, and when the swelling went down, he found there was a moveable substance in the joint. Shortly after, he discovered a second. These, at times, caused excruciating pain, more particularly when he was walking down hill, or coming down stairs, so as to oblige him to sit down till the pain had subsided.

He had worn a bandage, by means of which he could fix the larger substance at the upper and outer part of the joint; but the smaller one could not be retained in any one place, and it was

this, which, from its motion, and from its getting between the ends of the bones, gave him pain.

At the time of his admission, both substances could be readily felt, and moved to different parts of the joint; one appeared to be about the size of a marble, flattened; the other considerably smaller.

He was recommended to submit to the operation of having them removed, to which he consented; and was therefore directed, by way of preparation, to take at night, some Pills of Calomel and Extract of Colocynth, and some Aperient Medicine by day, for two or three days, and to eat no meat.

On the 19th, the operation was performed in the following manner.

Both the substances being pushed to the upper and outer side of the Joint, and the integuments drawn tightly over them towards one side,* while the Knee was kept straightened; the substances were fixed by means of the Ring, which I held with my left hand, firmly pressed against the side of the outer Condyle of the Femur, thus rendering their escape back into the Joint impossible.

I then, with a common Scalpel, made an Incision, within the Ring, through the Integuments and Capsular Ligament, from above, downwards into the Joint; when the larger substance immediately fell out, on the floor, and, with my finger, I tilted out the smaller one.

The operation was performed in less than a minute, and only about a drachm of Synovia escaped. There was no bleeding of consequence; the lips of the wound were brought together by adhesive plaster, a bandage applied, and a long splint was fixed on the outside of the limb, to prevent the Knee being bent. He was directed to keep quiet in bed, and to take a Saline Draught every three hours.

August 20.—He has had a good night, and is free from pain.

22.—The wound dressed, looking very healthy.

28.—Sat up for an hour or two.

Sept. 3.—Discharged quite well.

In conclusion, I may be allowed to ask, whether the evils so much dreaded in the operation of removing loose Cartilages from the Joints, may not, in all probability, have arisen from the excessive escape of Synovia, and the irritation produced by unsuccessful attempts to squeeze out those substances at a wound made comparatively upon speculation; and whether, if they can be always certainly and securely fixed, by the simple means I have employed, the operation be not thereby rendered sufficiently safe to authorise us to recommend it with confidence; at all events, where the Bandage and Knee Cap have failed to afford relief.

Cheltenham, June 26th, 1828.

* This was done to prevent the Wound in the Integuments being parallel to that in the Capsular Ligament.

Explanation of the Plate.

Figs. 1 and 2.—The substances removed, which appear to have been broken from each other; and to be composed in part of Bone, which is imbedded in Cartilage, surrounding it on the margin and on the whole of the under surface.

Fig. 3.—The Ring for fixing the loose bodies.

ARTICLE VI.

MEDICAL JURISPRUDENCE.

Case of Death produced by Pounded Glass.

BY MR. WILLIAM HEBB, SURGEON, WORCESTER.

I am induced to suppose that the following case will be read, not without some interest, by the Profession generally, but particularly by those Members of it, who, from the nature of their avocations, are more frequently called upon to investigate cases connected with Medical Jurisprudence; a branch of Medicine which has but very recently, in this country, at least, attracted that attention from Medical Men, which, from its extreme importance to the community at large, it so justly demands.

The Case which I am about to lay before the Profession, is one in which an Infant was destroyed, by some person or persons administering to it a quantity of roughly-pounded glass, and, there is but too much reason to believe, with intent to destroy life. Now, although it has been surmised by some, that glass, in the state of coarse powder, would, when introduced into the Stomach, most probably prove injurious, by the sharp angles of the fragments irritating the internal coat of this organ, and of the Intestines, thus producing fatal Inflammation; on the other hand, there are those who contend that such an idea is nothing but a vulgar prejudice; that Glass, in the state alluded to, may be taken into the Stomach in abundance, without the least inconvenience, and, in support of this opinion, they bring forward some very plausible experiments, in which individuals have swallowed large quantities, without sustaining therefrom any injury.

This case proves, in the most decided manner, the truth of the former opinion, although it cannot be doubted, that, if portions of Glass be taken into a Stomach containing a quantity of solid food, its internal surface may, by the presence of such food, be protected from the mechanical action of the glass, from which alone any injurious effects can be apprehended.

Independent of this being the only authenticated case, at least as far as my own experience and reading extend, proving that injurious effects may arise from the exhibition of this substance in the state of rough powder, there are one or two other singular

occurrences connected with it, which cannot fail to increase its interest with the Medical Jurist, viz.; the circumstances which led to the investigation of the case, and the nature of the defence set up in behalf of the suspected individuals. I shall proceed, first, to relate those circumstances, and then, the appearances presented on examining the body.

The Mother of this unfortunate Child, had lived apart from her husband for rather more than the last two years, and, during this time, she had formed an acquaintance with a young man, a day labourer; the result of this connection was the Infant, the subject of the present case, which, at the time of its decease, was about eleven months old. It appeared that this man, for the first eight or nine months of the Child's existence, had contributed very largely, according to his narrow means, to its support; but that, latterly, he had refused, to use his own words, "to be at any further trouble or expense about it;" and, consequently, the woman who had nursed the Infant from its birth, was reluctantly obliged to give it up to its Mother.

Some time having elapsed, and after a great deal of contention between the Father and Mother, as to the future disposal of the Child, it was finally agreed to place it with the Grandmother, she having previously promised to allow both the Child and its Mother to stay with her for a short time. This was accordingly done, late on a Saturday night, and, towards the end of the following week, the Clergyman of the parish was requested to bury it, the parties simply stating that it had died suddenly on the Tuesday morning.

The above circumstances having been made known to the Clergyman, determined him, together with the notorious character of the old woman, to decline burying it, until he had seen it, which, after much opposition, he was allowed to do, and the impression made on his mind was, as he informed me, that the child had been starved, so emaciated he thought the corpse; he, therefore, still persisted in refusing to inter it, until an investigation had been instituted to enquire into the cause of its death. The Coroner was desired to hold an Inquest on the Body, and I was requested by him to examine it.

Sectio Cadaveris.—There was nothing very remarkable in the external appearances; it was a Male Child, of a small size; the Face was full and plump, compared with the Trunk and Extremities, which were somewhat emaciated; there was nothing unusual in the interior of the Mouth and Fauces, except that the Tongue was much furred. Putrefaction had not, in the smallest degree, commenced. I now directed my attention to the Abdomen, which was not at all tense or swollen; and, throwing back its Parietes, I remarked, that the several Viscera were, to all appearance, healthy; no traces of peritonæal inflammation, or of any morbid secretion, existed; the Stomach was somewhat distended; the great Omentum was shrivelled up, and contained but little adipose substance in its layers; the Arch of

the Colon was filled with fœces, which imparted to it a greenish colour; the small Intestines were lying loose and flaccid; the Mesenteric Glands were enlarged in a trifling degree. Having made these general observations, I now removed the three portions of the Alimentary Canal. The lining Membrane of the Œsophagus was healthy. The Stomach contained from about three to four ounces of a thickish, dark-coloured fluid, having a very sweet taste; and interspersed through it, was a vast number of gritty, transparent particles and fragments, many of them of considerable size, which, on further examination, proved to be Glass; (such as that of which Medicine Bottles are usually made;) the quantity might be about a large tea-spoonful. The interior of this Organ was lined with a thick layer of tenacious mucus, which, in two or three places, was streaked with blood, and it required to be peeled off before the villous coat beneath could be exposed to view. This last was in a state of amazing vascularity; it presented one entire congeries of vessels; numberless particles of Glass, some large and some small, were adhering to it, and, in many places, it was lacerated by them. [This appearance is much more distinct, now that the Stomach is dried, than at the time of the examination.] The fluid in its cavity contained, in addition to the Glass, some small bits of bread, and also some very minute black particles, the nature of which I could not ascertain. None of this fluid, nor any of the glass, was found beyond the Pylorus. Aware, now, of the very serious nature of the case, I proceeded, with increased caution, to examine the other Viscera of the Abdomen; and, tracing the small Intestines from one end to the other, I found them perfectly healthy in their structure. They contained a small quantity of pulpy matter, which was of a yellow colour at the beginning of the small Intestines, but pink towards their end. There were two small Lumbrici in the Ileum. The large Intestines were healthy; they contained a moderate quantity of greenish semi-fluid fæcal matter. The Liver, Spleen, and Kidneys, were also healthy; but the Pelvis of the left Kidney contained a small calculus. The Thoracic Viscera were healthy, as was also the Brain—though the vessels of this last were much loaded.

Such being the appearances disclosed by Dissection, I had no difficulty in coming to the conclusion, that the deceased died from Inflammation of the internal coat of the Stomach, induced and kept up by the fragments of Glass which it contained. In answer to a question from the Coroner, as to the mode in which this Glass was introduced, I said, that, from the great sweetness of the fluid contained in the Stomach, it was not improbable it had been mixed up and given in sugar.

It was proved in evidence, by several individuals, who saw the Child on the evening it was taken to the Grandmother's, and who had also previously known it, that it was then lively, and in its usual state of health; but that it had never been a strong hearty child; also, that the Mother had frequently been heard

to express a wish that it was dead; that no one saw, or had access to, the child, from the time it was taken to the Grandmother's, until the day on which the Clergyman saw it lying dead, save these two women; no one living in the cottage, but themselves, and a decrepid old man of eighty, who was nearly blind. The elder of the two women stated that the child died in her arms, at two o'clock on Tuesday morning, whereas, she was seen, before that hour, on that day, going to a town four or five miles off, where she remained a considerable time, at the house of a relation, and did not return till late in the evening. The Father of the Child deposed, under a state of very great agitation, that the last time he saw it, was on the Saturday night, when he carried it to the Grandmother's, and left it there with its Mother; that it was, at that time, as well as he had ever seen it; he saw it no more; but was informed of its death by its Mother, on the Wednesday following, at which he said he was much surprised. Several other circumstances were stated by the witnesses, tending to throw great suspicion on the two women, and the Jury, after having given the case a very long and attentive consideration, returned a verdict of Wilful Murder against the Mother and Grandmother.

In pursuance of this verdict, they were committed to Prison, and were put on their trial before Mr. Baron Garrow, at the Lent Assizes for this County, in 1827. The trial commenced by the examination of the writer of the present statement, in which he reported the appearances observed on Dissection, and the inference he was compelled to draw from them, as to the cause of death; in the correctness of which, he had the great satisfaction of being supported by the concurring opinion of a very eminent Surgeon, of this City, who was also examined.

The Prisoners' Counsel, in the cross-examination, laboured to shew, first, that it was exceedingly doubtful if Glass would produce those injurious effects, which were stated to have arisen from it in this particular case; and noticed an instance related in a volume of the Repository, in which, a person, for the sake of experiment, had swallowed a quantity of it, without sustaining any injury whatever; and secondly, supposing that *it*, in this case, occasioned the death of the Child, it was not improbable that, as the children of the poorer classes are fed with food sweetened with the coarsest sugar, the said Glass might have been accidentally ground and mixed up with it, while in the manufacturer's hands, and thus had been given, from time to time, in the Child's food, without being perceived, or its existence suspected, until, from its gradual accumulation in the Stomach, it at length produced that Inflammation which was said to have destroyed the Child. This extraordinary view of the case, met with the entire concurrence of the learned Judge. I must confess, I could not myself comprehend how such could possibly have happened, and I considered the supposition far beyond the bounds of probability.

It was the more strange that recourse was had to this singular argument, as, although the most careful search was made on the premises, for Glass, such as that described, none could be found, except a small phial containing a little Paregoric; and, although the circumstantial evidence was *strong*, *equally* against both the women, and consequently, both were included in the indictment; yet it certainly *was possible*, that the Glass might have been given by the one, without the aid or knowledge of the other; and, supposing such to have been the case, who could say which was the guilty one? In this stage of the proceedings, the learned Judge asked the Counsel for the prosecution, whether there was evidence to shew that the prisoners had any Pounded Glass in their possession, and receiving an answer in the negative, he addressed the Jury, observing, that he had read the depositions taken before the Coroner, and although the case was one highly worthy of investigation, yet there was no evidence which would bring home to the prisoners the charge of administering the Glass in question, indeed, that it had very probably been given accidentally, in the way described by the Prisoners' Counsel; and, therefore, he thought it useless to proceed further with the trial. The Jury, being also of this opinion, returned a verdict of Not Guilty.

In reporting this very singular case, I have endeavoured to confine myself, as much as possible, to a simple statement of the facts, as they occurred; and to relate them with the strictest possible accuracy. There may, perhaps, be some difference of opinion, as to the mode by which this Glass came into the Child's Stomach; whether by wilful exhibition, or accidentally in food, as supposed by the learned Judge; but that it produced a fatal effect, there can be, I apprehend, no doubt in the mind of any one.

May 24th, 1828.

ARTICLE VII.

HOSPITAL REPORTS.

A Case of Rupture of the Bladder, with Separation of the Symphysis Pubis. Death 60 hours after the ocurrence of the accident.

David Hill, æt. 35, horse-breaker, a stout, powerful man, was brought to the Worcester Infirmary, on the 5th of June, in the evening, having met with an accident, from a colt rearing up and falling upon him, about three hours before. His Face was pallid and distressed; Pulse very feeble. He complained of great pain about the left hip, particularly on motion. He had not passed any urine since the accident, or for three hours before. The person who brought him said, that, at the time of the accident he was intoxicated. A Gum Catheter was passed, and left in the Bladder; about a pint of bloody urine was drawn off. He was ordered half an ounce of Brandy every two hours.

June 6.—The Pulse had got up. There was very extensive ecchymosis over the Pubes, and both Groins; great tenderness and tension over the Abdomen; no Stool; Vomiting very frequent.—Applr. Hirud. xxx. abdom. ℞ Hyd. Submur. gr. x. Pulv. Jalap, gr. x. fl. Bol. i. stat. sum. Mist. Cath. 4tis horis.—Adhib. Enema Vespere.

7th.—Vomiting continues, of dark-coloured matter; Pulse, hardly perceptible; Intellect clear; no Stool; Urine flows through the Catheter. Tension and tenderness of the Abdomen increased.

8th.—Died this morning.

Sectio Cadaveris.—Integuments, and the whole of the Abdomen, below the Umbilicus, much contused. The Symphisis Pubis was separated throughout its whole extent, so as to allow the thumb to be introduced between the bones. The Bladder was ruptured transversely through the Fundus and Peritoneum, covering it, to the extent of about four inches. A small quantity of urine, mixed with pus, was discovered in the Pelvis. The Intestines shewed patches of inflammation here and there, and about three inches of the Intestinum Ilium was quite black, from ecchymosis between its coats. H. C.

Case of Wounded Liver, from a Gun Shot Wound. Death in 17 hours.

James Banks, a stout young man, about 16 years of age, was brought to the Worcester Infirmary, on the 5th of November, about six o'clock in the evening. He had been firing off an old Cannon or Pistol Barrel, charged with a quantity of powder and gravel, which burst, and struck him down. There was a small wound, just large enough to admit the little finger, over the Cartilages of the False Ribs on the right side, about three inches from the Ensiform Cartilage. His Face was extremely pallid; Pulse, small and fluttering; Breathing, very laborious; Blood flowed in considerable quantity from the wound, dark in colour, and thin, as if diluted with other liquid; he gradually sunk, and died about eleven o'clock the next morning.

Sectio Cadaveris.—The Cartilages of the False Ribs, under the wound, were much shattered; a wound, about an inch in length, was discovered in the Liver, close to the Ligamentum Suspensorium, passing through its substance, and coming out on the left side of the Gall Bladder; the first portion of the Duodenum, close to the Pylorus, was laid open to some extent. The Pancreas was also wounded, and a piece of iron, about two inches in length, and an inch in breadth, much bent, with jagged edges, was found lodged in its substance. The right Hepatic Artery was wounded, also the Hepatic Vein; this latter vessel, from the appearance of the blood, chiefly furnished the Hæmorrhage. A good deal of coagulated blood, mixed with the contents of the Duodenum, was found in the cavity of the Abdomen.

H. C.

Misplaced Colon, with Enteritis.

Oct. 1823. Ann B. had been, two years before, a Patient in the Infirmary, under my care, with a fixed Tumour in the right Iliac region, painful and tender. The Bowels were then costive; the Abdomen tense; the Tongue foul; the Pulse rapid and weak; and the Emaciation great.

She was ordered a Seton over the situation of the tumour; occasional doses of Oleum Ricini, and low diet. Under this treatment, the tumour nearly disappeared, the other symptoms yielded; and she gradually regained flesh and strength.

After a violent fit of anger, in which she used great muscular exertion, she was suddenly seized with fixed and violent pain in the Bowels, of true inflammatory character. The Bowels were, at first, loose, but afterwards, obstinately bound, with vomiting of bilious matter. The seat of the old disease was the most tender part of the abdomen.

She was bled generally and locally, largely and repeatedly. In 72 hours from the seizure, the Abdomen became tympanitic; the Pulse too rapid to be counted, and she soon afterwards expired.

Sectio Cadaveris, 36 hours after death.—The Omentum, at its lower edge, was highly inflamed, and adherent, in the right Iliac Region, to the Peritoneal Lining of the Abdominal Muscles, and to the subjacent Intestines. A portion of it was sphacelated. The portion of Intestine with which it was chiefly connected, proved to be the centre of the transverse arch of the Colon, *misplaced*, and having its Peritoneal Coat thickened nearly to a quarter of an inch, over a space as large as three half-crowns. For the Colon, instead of passing across the Epigastric Region, descended from the right Hypochondriac Region to the right Iliac, and then ascended again to the left Hypochondriac Region, whence it pursued its usual course.

The diseased portion of the Colon had part of its Peritoneal Coat in a state of Sphacelus; but the Villous Coat was healthy at this part, and throughout the whole tract of the Intestines. The diseased part of the Colon was adherent to the Cæcum below, but the Cæcum was free from disease. There was a soft Albuminous Deposit on the folds of the Intestines, and on the under surface of the Omentum; there was, also, about a pint of serum in the cavity of the Peritoneum.

Remarks..—The diseased portion of the Intestine, which evidently constituted the original Tumour, was, from its situation, considered by all who saw her when she was in the Infirmary, to be the Cœcum. The fact of the displacement of the Transverse Arch could not be ascertained during the life-time of the patient. This case shews how rapid and severe is acute inflammatory action, when it takes place in a morbidly altered structure, in which, perhaps, Chronic Inflammation is going on. It shews, too, that those violent passions of the mind which augment generally the force and rapidity of arterial action, are powerful exciting causes of local Inflammation. J. M.

Hydrocephalus acutus.

In a Child aged six years, who died with all the symptoms of this disease, I found more than two ounces of fluid beneath the Tunica Arachnoidea, but not any in the Ventricles of the Brain. The Brain was highly vascular and very hard.

In this case, in the early part of the first stage, Vomiting was produced by sudden noises, as a clock striking. This I witnessed more than once.

J. M.

Case of Tumour in the Uterus.

In August, 1813, Susan Turberville, 53 years of age, was made an in-patient of Worcester Infirmary, with an Ulcer in the left leg, which had existed for five months. In addition to this, there had been, for some years, great enlargement of the Abdomen. It was as prominent as in the 6th month of pregnancy. The enlargement was general over the lower part of the Abdomen, not greater on one side than the other, extending from the Pubes nearly up to the Umbilicus. She was generally in pain about these parts, and in the Groins; there was likewise considerable tenderness, on pressure. The appetite was good, but she was troubled with wind on the Stomach. The Bowels were always costive. She had frequent micturition, and always pain in evacuating the bladder. She was quite incapable of any active employment, but able to gain her livelihood by knitting, though she could not sit long in one place, being easier for gentle exercise. The Breath was always short, but there was no cough. She had never borne children. The Catamenia flowed till the usual period. The Leg was cured by the latter end of December, and she went away from the Infirmary, much in the same state as when admitted, with respect to her Visceral Disease.

The Leg continued well for about a twelve-month, but the disease in the Abdomen kept gradually and slowly increasing.

On the 16th of September, 1815, she was again admitted into the Infirmary, on account of a small Ulcer on the inner ankle of the right leg. The Visceral Disease had evidently gained much ground. The Pulse was now always hard, and quicker than natural; the Pain, at the lower part of the Abdomen, was much greater; there was more tenderness, on pressure, and the Belly was increased in size; and the Breath was much shorter. There was, also, a constant, profuse, thick, white discharge per vaginam. The Bowels were more costive, and micturition was more painful. The Stomach was much oppressed with flatus, but the Appetite still continued good. On the 16th of October, she had the following Pills directed for her.

℞ Ferri Sulphatis, gr. iii.
Gummi Olibani, gr. x.
Cons. q. s. Ft. Pilulæ, ii. bis die sumendæ.

The intention with which these Pills were given, was to check the discharge, and give tone to the Stomach. At the end of a week, from taking the Pills, the discharge was much lessened, but in other respects she felt much as before. By the 20th of October, the discharge had almost ceased, but she was, in other respects, the same as when admitted into the Infirmary.

On the 28th, she complained of being worse, having rather more pain over the Abdomen, and great pain in the head. At night she was incoherent, wandering from one subject to another. The Bowels had not been moved for two days. Some Calomel and Antimonial Powder were taken at night, and a Blister was applied to the nape of the neck. The night was restless, but the Bowels were moved very freely on the morning of the 29th.

On the 30th, she began to complain of great increase of pain in the Abdomen, with tension and much tenderness, on pressure. No vomiting; Pulse hard, small and wiry. It was found, on enquiry, she had an Umbilical Hernia, but, on examination, it did not appear strangulated. Ten Leeches were applied to the Abdomen, by which she appeared slightly relieved, but shortly after, the tension, pain and tenderness returned. The Countenance now became ghastly, and the Eyes sunk; she had constant tenesmus. A large Blister was applied to the Abdomen, and she had an Opiate Enema. At about ten o'clock that night, she vomited for the first time, which recurred several times in the night. There was no relief from the Blister, and all the direful train of symptoms which usually characterize the last stage of Peritoneal Inflammation, now shewed themselves. She died, at three o'clock of the morning of the 31st.

Examination of the body twenty-four hours after death.— On Opening the Abdomen, purulent matter was observed, covering all the Intestines. The Uterus appeared to occupy the same space in the Abdomen, that it does in the seventh month of pregnancy; it was firmly and closely connected anteriorly with the peritoneal lining of the Abdominal Muscles. At the posterior part, it was connected with the peritoneal covering of the Bowels, and, as in the healthy state, with the sides of the Pelvis, by the Ligamenta Lata, as also to the Pudendum, by the Ligamenta Rotunda. On cutting it from its connections with the abovementioned parts, and elevating it, a process was found descending from the lower and posterior part of this large Uterus, into the cavity of the Pelvis, passing between the Rectum and the Os Sacrum, and separating the former from the latter. The Vagina and the Urethra were naturally situated. The whole surface of the Tumour was very much inflamed, and covered with pus. The peritoneal lining of the Abdominal Muscles, was in the same state. The Colon was larger than natural, but not distended with fœcal matter. The Cœcum was large. The Rectum not larger than natural. The small Intestines of their usual size.

The peritoneal covering of the Stomach was much inflamed; its upper surface adhering, by recent lymph, to the under surface of the left Lobe of the Liver.

The Liver was twice its natural size; its peritoneal coat inflamed, recent lymph being deposited on it. In addition to this, it was firmly and closely united, by old adhesion, to the Diaphragm.

The Spleen enlarged, and very soft in its structure. Its peritoneal coat had become cartilaginous in some places. Pancreas healthy. Kidnies healthy. Urinary Bladder full of small calculi. Thoracic Viscera healthy.

There was nothing but omentum contained in the Hernial Sac, at the Umbilicus, and it was not strangulated. On macerating the diseased parts, it was found that a Tumour had grown within the Uterus, much resembling the muscular structure of that Organ. The Uterus could, with ease, be separated from the Tumour, being connected with it by common Cellular substance.

The Uterus and Tumour, together, weighed 14lb. 8½oz.

Observations.—It is remarkable, in this case, that two very important organs, the Uterus and the Liver, were very considerably diseased, and yet this woman, until within a very short period of her death, appeared to suffer but little in her general health. There was, indeed, no other symptom of constitutional disturbance, but a difficulty in passing the urine, and constipation.

Dr. Baillie seems to regard growths of this description, in the Uterus, as Tubercles: he says, "A mass of the same kind is sometimes found in the cavity of the Uterus, and often grows to a very large size. I have seen it a good deal larger than a child's head at birth. This mass, when cut into, exhibits precisely the same appearances as those which we have so lately described. It is remarkable that such masses within the cavity of the Uterus commonly do not adhere in any part closely to it, but are connected with it loosely, by the intervention of Cellular Membrane and small Blood-vessels, so that they can be very easily peeled off without injuring the structure of the Uterus."

"These Tubercles," he says, in another place, "have a structure much resembling that of the Uterus itself."*

The size of the Tumour, in the case above related, is greater that any one alluded to in Baillie's Works, as he mentions one the size of a child's head at birth, as the largest he had seen, which falls far short of the one here detailed.

C. Hastings.

* Works of Dr. Baillie, by Wardrop, Vol. 2, p. 325.

ARTICLE VIII.

Remarks on the Climate of Worcester and its Vicinity.

BY JOHN WILLIAMS, ESQ. OF PITMASTON.

The Climate of Worcestershire is considered to be soft, warm, and healthy; and as far back as the time of Henry III. it was noted for its abundance of fruit; hence we may presume, in the absence of thermometrical records, that, even at the time when its marshes were undrained, and its surface almost covered by an immense forest, it possessed a mild climate. The Vale of the Severn, as might be expected, from its low level, is peculiarly mild; Snow seldom lies long on the ground, and, in the months of January and February, it is no unusual thing for the meadows to appear of a vivid green colour. The City stands on a gentle declivity, on the eastern side of the Severn, on a superstratum of Gravel, resting on Red Marl. The most elevated part, the Cross, is about forty feet above the low water mark in the river, and the highest floods on record appear to have risen about twenty or twenty-two feet above low water mark. A Ford extends from St. Clement's Gate to Diglis Meadows, having about two feet fall of water, which gives a brisk current to the river, and quickly carries off the drainage from the sewers. From Diglis to Gloucester Bridge, according to Mr. Jessop, there is only ten feet fall, and, *supposing* low water mark at Gloucester Bridge, to be fifteen feet above the Bristol Channel, the height of Worcester, above the level of the Sea, will be as follows.

	FEET.
From St. Clement's Gate to Diglis Pool,	2
From thence to Gloucester Bridge,	10
Low water mark at Gloucester Bridge, supposed above the Bristol Channel,	15
High water mark in great floods, at Worcester Bridge	22
Rise to the Cross	21
	70

Worcester, therefore, considering its distance from the Sea, stands low; this, joined with other local circumstances, gives the Climate the character of mildness; and, in cloudy or showery weather, the distant Hills seem to have an influence, for it often happens in a south-westerly wind, which is the prevailing wind in the western part of England; that the Cotswold Hills, which run from north-east to south-west, are covered with clouds, as is also the chain of high land in the western part of Herefordshire; and from thence, to the Clee Hills, in Shropshire; whilst the low plain of Worcestershire has a clear sky.

The Corn Harvest is, in consequence, some days earlier in the vale part of Worcestershire, than in the counties of Hereford or Gloucester. Again, when the north-east wind blows in the Winter or Spring months, its temperature is, perhaps, a little

modified, in passing, in an oblique direction, across the German Ocean, from the Nase of Norway; for in severe winters, tender plants are less injured in the neighbourhood of Worcester, than about London. This was particularly instanced about fifteen or twenty years ago, when the Arbutus Unedo was generally killed by the frost in Middlesex, but escaped injury in Worcestershire. The average fall of Rain, about Worcester, is twenty-seven inches. In wet years, it amounts to thirty or thirty-one inches, but in dry Summers, the annual fall does not exceed twenty-two or twenty-three inches.

There is no City in the Kingdom, perhaps, more improved in regard to Drainage, a good supply of Water, and a free circulation of Air in the streets, than Worcester. This has been chiefly effected by the authority given under the Paving, Lighting, and Water Acts. Fifty or sixty years ago, the fronts of most of the Houses consisted of a frame work of timber, filled up with plaster; every story, from the basement upward, projected one, and sometimes two feet, beyond the front of the lowest floor. The shop windows also projected far into the street. Oriel or bow windows generally prevailed on the first, and sometimes were carried up to the second floor. The City Gates, and the large Swinging Signs, which hung at right angles from the fronts of most of the tradesmen's houses, concurred also in obstructing a free current of air in the streets.

ARTICLE IX.

Medical Petitions to Parliament.

The prejudice existing against the practice of Dissection, in this Country, has long been a subject of deep regret with the Members of our Profession, as it certainly much tends to impede the progress of Morbid Anatomy. There is no question that the present state of the Law, by throwing an odium on the practice, fosters this prejudice. It is this consideration that has induced the Physicians and Surgeons of the United Kingdom to Petition Parliament that some measures may be taken to enable them to study Anatomy, without being exposed to the reprobation which public opinion annexes to those who violate the Laws of their Country. These Petitions have, by part of the Public Press, been very much misrepresented, and even some enlightened men have *lifted up their voice* against them. It has been said, that the object of the Petitioners is, to make it lawful that the Churchyards may be desecrated; whereas, their wish is to obviate the necessity of having recourse to the odious practice of Disinterment, by substituting a more efficient, and less appalling means of supplying the necessary subjects for Dissection. As Members of the Worcestershire Medical and Surgical Society, we cannot but rejoice that the attention of the Legislature was first called to this question, in consequence of a petition sent from that body

to the House of Lords; for we are certain that we speak the sentiments of the public at large, and of the profession generally, when we express an anxious hope that the practice of disinterment may be abandoned. But let it, at the same time, be borne in mind, as long as Anatomy forms the necessary basis of Medical Education, so long must Subjects be procured; and, until some safe mode of obtaining them in sufficient numbers be pointed out, the present system, so disgraceful to the age in which we live, must be continued. Is England, we may ask, foremost in the race of improvement in many other scientific pursuits, to be almost the only nation of Europe, in which the evils complained of cannot be obviated? and is it still to be justly said of her Institutions, in the memorable language of Sir James Mackintosh, "that if things go on as they now threaten, we shall close the better part of the means of Instruction in the Medical Sciences, but that a miserable remnant must still be scantily supplied by that system of clandestine and contraband disinterment, which shocks the heart of the mourner, disgraces science, as well as renders its profession odious, and becomes, like smuggling and poaching, a school in which men are fitted for the worst of crimes."

As we are of opinion that the agitation of this question cannot but be productive of beneficial results, we take the opportunity of making public the Petition of the Worcestershire Medical and Surgical Society to Parliament.

To the Right Honourable the Lords Spiritual and Temporal of the United Kingdom of Great Britain and Ireland, in Parliament assembled;

The humble Petition of the Worcestershire Medical and Surgical Society, Sheweth,

That your Petitioners, in common with all other Members and Students of the different branches of the Professions of Medicine and Surgery, are labouring under great hardships from the present state of the Law, which, by impeding a most important branch of Medical Education, the practice of Dissection, throws almost insurmountable difficulties in the way of acquiring a knowledge of Anatomy.

Nor can it, your Petitioners respectfully submit, appear to your Honourable House, otherwise than a palpable absurdity, that the various Corporate Bodies, to whom the care of Medical Education is consigned, should institute regulations, requiring Pupils to attend a certain number of courses of Lectures on Anatomy, and practice Dissection; while the Laws of the Land, so far from providing any means for facilitating these necessary objects, throw every obstacle in the way of their accomplishment.

For a corroboration of this statement, your Petitioners may select, from many others, a case which lately occurred at the Kirkdale Sessions, where a Teacher of Anatomy was fined in the sum of Thirty Pounds, for having a Subject in his possession,

which he had obtained for the purpose of illustrating his Lectures.

But the injury done to the Members of the Medical Profession, and through them to the Public at large, by the Law, as at present constituted, does not stop here; for although, by impeding the Study of Anatomy, the Law tends to keep many ignorant of Surgery, it has no compassion on the ignorance thus produced; for it must be well known to your Honourable House, that where want of skill in the Surgeon is proved in any particular case, the party aggrieved by that want of skill, may sue for, and obtain, heavy damages. The present Law, therefore, may be compared to a two-edged sword, inflicting punishment for Professional Ignorance, and also, for using the only means by which Professional Knowledge can be acquired.

Your Petitioners are credibly informed, that in France, Ireland, and other countries, the same difficulties in obtaining dead bodies do not exist as in England; and that Subjects may be procured in those countries, with great facility, and without the risk of legal punishment.

Your Petitioners, therefore, humbly pray that your Honourable House will be pleased to consider whether some regulations may not be adopted, by which Physicians and Surgeons may obtain Subjects for Dissection, without incurring pains and penalties; and your Petitioners, as in duty bound, will ever pray, &c.

ARTICLE X.—COLLECTANEA.

Diet and Regimen.

The Ancients have been compared to Giants, and the Moderns to Dwarfs upon the Giants' shoulders, seeing further than the Giants themselves. It is certain that a competent knowledge of the writings of the Ancients, and, indeed, of all the Authors who have preceded a Philosopher in his particular study, is necessary, if he wish to take an accurate survey of the region he is about to explore. Besides, without this precaution, he may ascribe to himself the inventions of his predecessors; or waste his time in experiments, the success or failure of which has been long recorded, instead of being usefully employed upon new subjects of inquiry. Hippocrates, in his 5th Aphorism, remarks that "even in health, a diet too precise and regular, is disadvantageous; because errors which *may* arise are more severely felt: on this account, therefore," he says, "a severe regimen is more dangerous than one a little more liberal."

"Celsus," also, as Lord Bacon remarks, "could never have spoken it as a Physician, had he not been a wise man withal, when he giveth it for one of the precepts of health and long lasting, that a man do vary and interchange contraries, but *with an inclination to the more benign extreme.* Use fasting and full eating, but rather full eating; watching and sleep, but rather sleep; sitting and exercise, but rather exercise, and the

like: so shall *nature* be *cherished* and yet *taught masteries*."*

The Moderns have not laid down better rules for the diet and regimen of healthy persons, than can be collected from a careful study of these Fathers of Medicine. The above rules, for instance, are founded upon the basis of an accurate observation of nature, and are in accordanee with the two following laws.

1st.—The more energetic the vital powers are, the more easily they resist those ehemical and mechanical powers, by the ascendency of which, health is chiefly deranged, and death characterized.

2nd.—Habits once formed, cannot, for the most part, be changed suddenly with impunity. With regard to the functions of the stomach, habits are peculiarly dangerous: for, whatever be the food that the stomach changes, it reciprocally affects and alters the action of the stomach; consequently, a strict or spare diet long pursued, has a tendency to incapacitate the stomach for the digestion of other, or more food. "Omnia ergò sanis tentanda, ut omnia commodiùs ferant: nam sicuti cibus quisque demutatur secundum qualitatem, ità vicissim id quoque corpus a quo alteratur, utcunque afficit, alteratque."† Adam Fergusson had not more correct views of the nature of the Human species than Celsus. Celsus knew that a man in health and in active employment, could not, from the constitution of Society, keep to a strict diet and abstemious regimen; but he knew that he might accidentally be brought to the extremes of privation and enjoyment; he, therefore, bearing in mind the "benign" advice of Hippocrates, to live well on the whole, recommends, in addition, occasional voluntary changes and privations; in order to prevent the formation of confirmed habits, and to inure the body to unavoidable vicissitudes.

"Man is born in Society," says Montesquieu, "and there he remains. The charms that detain him are known to be manifold." "There is a propensity common to man and other animals, to mix with the herd, and, without reflection, to follow the crowd of the Species. What this propensity was, in the first moment of its operation, we know not; but, with men accustomed to company, its enjoyments and disappointments are reckoned among the principal pleasures and pains of life."‡

If, therefore, men are to live in the world, discharge its social duties, and innocently and unhurt enjoy its pleasures; it is clear that they must live well enough to be equal to their work; and, at the same time, form no habits so inveterate that the accidental interruption of them would be fraught with danger to their health, and, consequently, be destructive of their social activity, without which, a man may be wise, and virtuous in theory, but must fail in practical usefulness to his fellow-creatures. If these opinions be correct, how many persons must have lost their

* Essay on Health.
† Lommius de Sanitate tuendâ, cap. 1, sect. 4.
‡ Fergusson on Civil Society.

health, and shortened their lives, by an over anxiety about both; and how many may have unconsciously lengthened their days by the very recklessness and irregularity which, in the opinion of their sedate valetudinarian friends, were only calculated "lethi corripere gradum."

J. M.

Arrow Root.

The Adulteration of this very valuable article of diet for Children and Invalids, with fine Flour of Wheat, or with what is termed Potatoe Starch, (a common practice in the Metropolis,) may be easily detected; ten grains of the Flour, or of the Potatoe Starch, forming, with two ounces of boiling water, a pretty strong jelly, while the same proportion of genuine Arrow Root forms a very thin jelly. The jelly of the true Arrow Root will retain its solidity three or four days, while that of the Potatoe Starch, or the food from what are termed "tops and bottoms," becomes nearly as thin as water in the course of two days, a fact that strongly points out the superiority of Arrow Root over the Potatoe Starch, or "tops and bottoms," as a nourishing article of diet.—*London Medical Gazette.*

To Preserve Potatoes.

To preserve Potatoes in a proper state for food, for many years, it is only necessary to scald them, or subject them to a heated oven, for a few minutes. By doing this they will never sprout, and the farinaceous substance will keep good for many years, provided the cortical part be entire. They should be well dried after being scalded.

Muscovia Glass.

A considerable quantity of an article under this name, has, within the last three years, been imported from Siberia, for the use of Brewers, who have found it to answer the purpose of correcting and fining stale Beer. It is a mineral production, containing Magnesia, and affording, in boiling, a considerable proportion of Gelatin. The Magnesia neutralises a portion of the Acetic Acid in the stale Beer, and the Gelatin, in depositing, carries down with it all the suspended impurities. We are told a pound goes as far, in fining Beer, as two pounds of Isinglass. The price is about 3s. 6d. per pound. It would probably answer the same purpose in fining Cider; but to prevent the Magnesia from neutralising a portion of the Malic Acid, a little dilute Sulphuric Acid should be added to the Jelly, in order to neutralise the Magnesia it may contain. It is used in the same manner as Isinglass.—*London Medical Gazette.*

Human Combustion.

The possibility of the spontaneous Combustion of the Human Body has frequently been doubted. A Memoir lately read to the

Academie des Sciences, however, completely establishes the fact, and states the following as the principal circumstances attending it, derived from Chemical and Medical Observations on no fewer than fifteen cases of its occurrence :—1. The greater part of the persons who have fallen victims to the spontaneous Combustion, have made an immoderate use of Alcoholic Liquors.—2. The Combustion is almost always general, but sometimes is only partial.—3. It is much rarer among men than women, and they are principally old women : there is but one instance of a Combustion of a girl, seventeen years of age, and that was only partial. —4. The Body and the Viscera are invariably burnt, while the Feet, the Hands, and the top of the Skull, almost always escape Combustion.—5. Although it requires several faggots to burn a common Corpse, incineration takes place in these spontaneous Combustions, without any effect on the most combustible matters in the neighbourhood. In an extraordinary instance of a Double Combustion operating on two persons in one room, neither the apartment nor the furniture was burnt.—6. It has not been at all proved that the presence of an inflamed body is necessary to develope spontaneous Human Combustions.—7. Water, so far from extinguishing the Flame, seems to give it greater activity ; and when the Flame has disappeared, secret Combustion goes on.— 8. Spontaneous Combustions are more frequent in Winter than in Summer.—9. General Combustions are not susceptible of cure ; only partial.—10. Those who undergo a spontaneous Combustion are the prey of a strong internal heat.—11. The Combustion bursts out all at once, and consumes the Body in a few hours.— 12. The parts of the Body not attacked are struck with Sphacelus.—13. In persons who have been attacked with spontaneous Combustion, a Putrid Degeneracy takes place, which soon leads to Gangrene.

Tic Douloureaux.

On Monday, April 14, was held, at the College of Physicians, the first of their proposed series of Evening Meetings, open to the several Branches of the Profession, for the discussion of Professional subjects. In the course of the evening, the learned President read a paper of great interest on the Tic Douloureaux. The intense sufferings of those who are so unfortunate as to labour under this formidable disease, and the frequent failure of the means hitherto considered the most effectual for its relief, division of the Nerves, give increased interest to any new suggestion that promises better success, especially when coming from such high authority. Tic Douloureaux he (the President) considers as frequently dependent on a deposition of Boney Matter in some unusual situation ; a preternatural growth, or a diseased state, of some Bone. This position he illustrates with cases. The Paper will, no doubt, be given to the public, by the College, in the next volume of its Transactions. We have, nevertheless, considered it highly desirable to endeavour, as far as

in us lies, to make known, what promises so fairly to throw additional light on the hitherto obscure nature and treatment of this source of human suffering. The subject certainly claims the immediate attention of the Profession at large.

On the Active Principles of Hemlock, according to M. M. Brandes and Giseke.

The best method of obtaining this Vegeto-Alkali, consists in digesting the fresh Plant, for several days, in Alcohol, filtering and evaporating the Liquid, mixing the residue with Water, and acting either by Alumina, Magnesia, or the Oxide of Lead: the whole is then to be evaporated to dryness, and the substance obtained, acted on by a mixture of Alcohol and Æther: the solution being evaporated, yields the principle now distinguished by the name of Conin, (Conia). This principle is said to possess decided Alkaline properties; its aqueous solution forms an abundant red Precipitate, with Tincture of Iodine. Half a grain of the substance will kill a Rabbit; the symptoms being the same as those produced by Strychnia.

Remarks on the prevailing Diseases of Horses.

From the beginning of the year to the present time, Catarrh, with its sequelæ, have been prevalent amongst Horses, very many having suffered severely with Sore Throats, Pneumonia, &c. Within the last few weeks, I have seen several cases of Diarrhæa, caused principally by improper feeding, and aided, no doubt, by the sudden changes of the weather. In these cases I have found Liquid Blisters applied extensively to the Abdomen, with considerable doses of Creta Ppt. generally afford relief in a few days; most of these cases have been half-starved young Horses, running and feeding, ad libitum, in straw yards. Enteritis has been rather prevalent, attended with obstinate constipation; this I attribute to improper feeding also, in a great degree; the Diet of such Horses being confined almost entirely to dry food, containing but little nutriment. Upon the whole I consider Horses have, generally speaking, suffered more from illness than in the Spring of 1827.

G. Corbett.

NOTICES AND ACKNOWLEDGMENTS.

Communications have been received from Dr. Mc Cabe, of Cheltenham, and Mr. Addison, of Malvern, which will appear in an early Number.

The Second Number will be published on the first of November, and will contain an Account of the Worcester Infirmary, from its Establishment to the present time.

All Letters and Communications addressed, free of expense, (under cover,) to the Editors, at the Office of the Worcester Journal, will receive immediate attention.

THE MIDLAND

Medical & Surgical Reporter,

AND

TOPOGRAPHICAL AND STATISTICAL JOURNAL.

HOMO, NATURÆ MINISTER ET INTERPRES, TANTUM FACIT ET INTELLIGIT, QUANTUM, DE NATURÆ ORDINE, RE VEL MENTE OBSERVAVERIT; NEC AMPLIUS SCIT, AUT POTEST.—BACON, NOVUM ORGANUM.

No. II. NOVEMBER, 1828.

MEDICAL TOPOGRAPHY. ESSAY II.

The Worcester General Infirmary.

HAVING, in a former Article, pretty accurately investigated various circumstances, in the City of Worcester, that may be presumed to influence its Population, and also endeavoured to point out any peculiarities in the employments of the Citizens, that appear to affect their Health; we are now led to inquire, what are the Charitable Institutions provided for the Solace and Relief of its Poor and Industrious Inhabitants.

The first and most paramount of these, in a Medical point of view, is the Infirmary, for the City and County of Worcester, which also relieves objects of distress from every part of the United Kingdom. This truly charitable Institution has now flourished 83 years, and, during that space of time, the afflicted Poor of the City and surrounding Counties, have derived from it the most important benefit. It was first opened on Saturday, January 11, 1745, in Silver-street, in a building near Lowesmore, now in the occupation of Mr. Colville, who keeps an Academy there. The ability of its professional founders, (for with them the honour of the Establishment seems to rest,) soon excited a generous, liberal, and voluntary public patronage. By complete success crowning the humane labours of the one, and the warm and cordial support flowing from the other, a permanent foundation was soon laid, whereon has arisen a genuine Monument of Benevolence. The names of Attwood, Mackenzie, Cameron, and Wall, as Physicians; and of Edwards, Russell, and Jeffreys, as Surgeons, must ever remain dear to the friends of humanity. It was their combined labours and skill that pointed out to the Inhabitants of

Worcestershire this new and important province, wherein the affluent and beneficent might exercise their inclinations to do good, in favour of the indigent and afflicted. It was by their persevering exertions, demonstrated to the satisfaction of every dispassionate mind, that undeniable benefit had been experienced from similar Charities; that it was less liable than any other to imposture or misapplication; that it would be serviceable to the greatest number of sufferers, by infinitely the cheapest, and incomparably the best method of relief; that it would reduce the number of vagrants, by destroying one specious pretence for begging; that it would ease whole families from attending and providing for sick relations, by relieving the miserable objects themselves, and leaving their families at liberty to pursue their labour; and that, finally, every private family would be benefitted by the opportunity afforded to the Physicians and Surgeons, for a variety of useful observations not to be attained in private practice. Happily for the present age, these humane and enlightened views of the Medical Gentlemen, who, at the above period, resided in Worcester, met with the cordial concurrence and support of the venerable Bishop Maddox. This distinguished Prelate was the earliest Patron of the Infirmary; and, notwithstanding the year 1745 was a season, when, on account of the internal commotions and rebellion in the Kingdom, few Public Works were set on foot; the charitable and indefatigable spirit of the Bishop, thought no season improper to do good; he was well seconded by the Gentlemen of the County, and an Annual Subscription of above £500 was soon engaged for.* In the year 1748, three years after the Infirmary was first opened, in order to make the successful progress of the Charity more generally known, the following account of the Infant Hospital was published, by the desire of the Governors, in an Appendix to the Bishop's second Anniversary Sermon, which was preached at the Cathedral, the 18th of October, 1748.

"The Bishop of the Diocese having made a proposal for erecting an Infirmary at Worcester, upon the plan of those so happily experienced in other Counties, and having enforced this useful Work, in a Sermon preached at the Summer Assizes, A. D. 1745, and afterwards, by Circular Letters to the Clergy of his Diocese; a Subscription was accordingly opened for that purpose, and several of the Noblemen, and Gentlemen, and Clergy of the County, greatly encouraged it, by their bounty and example. Soon after this, a general application was made to the Inhabitants of the City, who generously contributed a considerable sum (nearly £200,) towards furnishing the house, and defraying the first necessary expenses. About this time, the Storm that threatened us from the north, burst over our heads. The Rebellion grew to be a very serious affair, and so much affected the minds

* This is the account given by Dr. Nash, in his History of Worcestershire; but it appears from the Statement of the Accounts published by the Bishop, that if £500 was engaged for, it was not paid.

of most persons, that it considerably impeded the progress of this Charity. However, fearing that if we stopped here, we might never be able again to resume our good work to much purpose, we persisted in our design, notwithstanding all the inconveniences arising from the Distraction of the Nation."

"At the first General Meeting of the Subscribers, the Physicians were, by universal consent, desired to take the intended Hospital under their care; for, as all these Gentlemen had this Charitable Institution much at heart, so no doubt could be made, but that they would apply themselves cheerfully and unanimously to establish it; and the event justified this expectation; for, from this appointment to the opening of the house, they devoted one or two days in every week to the service of the future Infirmary, when they constantly met together to settle a Body of Rules, extracted out of those experienced to be most beneficial in other Hospitals; to compile a proper Dispensatory; and to supply the house with all other things necessary. But, as the sums already subscribed were not large, they thought it expedient to proceed cautiously, chusing rather to have the Hospital small, than to run any risk of exceeding their funds. For this reason, they contracted for a House, not very large, nor at all magnificent, but which, by a few alterations, might be made convenient, and capable to hold about thirty beds: yet, they thought it not prudent at first to set up more than twelve beds, six for men and six for women; and, as the occasions of the County called for them, they have, at different times, increased the number, which, at present, amounts to thirty-two. It is the happiness of this place, that the Gentlemen of the Faculty, who live upon the best terms of friendship, are ready to consult with, and to communicate their observations to, each other. The good effects of this agreement are felt in their private practice, and in the Infirmary in particular; for, with assurance it may be said, that no Hospital in the Kingdom has been better attended than this. Ever since it was first opened, one Physician, and all the Surgeons constantly attend the In-patients every day, if it be necessary; and there is a General Meeting of all those who are in town, twice a week, viz. on the days for receiving the New Patients, and prescribing for the Out-patients, when, if any particular ease requires it, a consultation of all the Physicians and Surgeons is had thereon."

"For the first two years, the whole direction of the Infirmary continued in the hands of the Physicians; but, finding the load too heavy, they desired the assistance of the Subscribers to ease them of some part of it. Accordingly, a Committee of the principal Benefactors was appointed, some of whom might meet every Saturday, to regulate the affairs of the House. The Rules, which had been so long happily experienced, were, at the last Anniversary Meeting, ordered to be printed, together with the state of the Patients and the Accounts, from the first opening of the House, to the last General Meeting. The Hospital is now

very considerably enlarged; but, with the additional expense of hiring an adjoining house, so that if Subscriptions arise in proportion, fifty or sixty Patients may be conveniently received in the two united buildings: and, as no imputation of partiality can be charged upon any part of the management of this Charity, it may be presumed and hoped, that persons of all denominations will lend a helping hand to promote and recommend so compassionate and useful a design. In order thereto, at the last Committee, it was resolved, not only to erect Poor's Boxes in all convenient places throughout the County, but likewise to establish correspondents in the several Towns, to solicit and collect contributions, as well as to receive Information, and to obviate and answer any groundless objections or mistakes (if such should hereafter arise,) in relation to the administration of this Charity in any particular."

The Bishop, from the Pulpit, ably and eloquently advocated the cause of the Infirmary, and forcibly stated its claims upon public sympathy. So beneficial to the Interests of the Establishment did the Governors consider this appeal to the Wealthy, that they distributed numerous copies of the Sermon amongst different individuals of distinction, in this and the adjoining Counties. "Is there," says this Venerable Prelate, "in the whole compass of Moral Actions, any one more decent, more beautiful, more laudable and comely, than for Human Nature to be affected with Human Misery, and Man compassionate the distress of Man? Can greater fitness and propriety, greater beauty and order appear, than in thus doing good, certain and substantial good; where the affliction is undissembled and severe, no less than grievous; sickness rendered still more grievous by woeful poverty; and the relief, in both respects, so well adapted, so immediate and complete? How benign, how lovely, is this seasonable and effectual Pity for the Sick and Indigent! This particular Infirmary is worthy of regard and assistance; and the rather, because the increasing number of distressed objects, who earnestly implore the same kind and merciful relief, that hath proved so successful to their poor neighbours; and the necessity there was to enlarge the Hospital, by the late addition of an adjoining house, must unavoidably increase both the occasional and constant expense, and, of course, render additions to the Fund of this Charity, a new supply of Benefactions, extremely necessary."

"The Sacred Place in which I stand, forbids all approaches to flattery; and, in the present case, no inducement can be supposed to make me guilty of it. Yet justicé requires that the constant application, the vigilant and useful care of the skilful and worthy Physicians, should be distinctly mentioned, as it well deserves to be publicly applauded. These learned Gentlemen, like the beloved Physician, whose praise is in the Gospel, and whose Festival we this day* celebrate, have extended their regard to the misera-

* The Sermon was preached on St. Luke's Day.

ble, beyond the limits of their own profession; and have justly merited that honourable and amiable appellation—Fathers of the Poor. Their Christian Humanity hath undergone the great but useful trouble of regulating the domestic concerns of this Charitable Institution; so that this large and changeable family hath been managed with so much integrity and prudence, tenderness and impartiality, as entirely to stifle the suspicions of ignorance, or the insinuations of that indifference which wilfully shuts its eyes and refuses to be informed."

After the Publication of this admirable Sermon, there seems to have been no particular pains taken by the Governors to preserve the early Records of the Infirmary. Those which exist are to be found in the Order Book; but the Governors, at that early period, seem to have kept very scanty records of their proceedings.

We have, however, been enabled to make several extracts from the Worcester Journal, which was published at that time, that appear to us highly deserving attention, as they shew how very strongly public opinion was, soon after its birth, directed to the Infant Institution. On the 27th of April, 1749, a Donation of five guineas is noticed, from Richard Salwey, Esq. of Ludlow, who had given ten guineas at the preceding Christmas, but who increased his Donation, in consequence of having read the Bishop's Sermon.

On Thursday, the 12th of October, in the same year, it was reported at the Anniversary Meeting, that the Number of Patients relieved during the past year, was 470; of whom "one had been ill, before admission, 22 years; one 21, one 15, one 12, one 9, one 8, four 7, four from 5 to 6, nine 4, ten 3, six 2, and ten 1 year and upwards; seventeen 6 months and upwards. A carious part of a bone in the foot was removed by the Trepan, in one subject, and taken out by the Knife, in two others, and the foot, in each instance, preserved. One Cancerous Breast was removed. A Stone, that had been long in the Urethra, was extracted; and one Amputation of the Leg was performed, with the desired success."

On the 29th of March, 1750, thanks were given publicly by the Governors, to "good Mrs. Ravenhill, for her care in sending to the Infirmary, Bibles, and other pious Books."

On the 17th of May, in the same year, there is another account of the great cures done at the Hospital. A boy, about 13 years of age, had been cut for the stone a few weeks before; and, it is added, that "the operation was successfully performed, by Mr. Russell, notwithstanding the Stone was of a very large size for so young a subject." It is also stated, on the 18th of the following June, that "Edward Sloane, (servant to Mr. Caruthers, at the Bell, in Pershore,) who was received into the Infirmary, five weeks before, with a Gutta Serena, *(or total loss of Sight,)* was discharged perfectly cured. At his admission into the Infirmary," it is added, "he could not distinguish the

brightest sunshine from the darkness of the night, but is now able to read the smallest print. Such instances as these, as they shew the great use of this Charitable Institution, should incline *all* persons to contribute to the utmost of their abilities to the support of it."

On the 16th of August, the Anniversary Meeting is noticed. The number of Patients relieved since the last Report, was stated to be 433. Amongst the cured, were persons affected with Stone, Gutta Serena, and Palsy; from three persons, foul bones in the foot had been removed, and, in one, the carious part of the Os Calcis was taken out by the Trepan; and two Amputations of the Leg were performed, with the desired success. Amongst the cured also, three had been ill, before their admission into the Hospital, 20 years; one 17, one 16, one 13, two 12, five 10, one 9, one 8, three 7, four 6, six 4; twenty-six from 1 to 3 years, twenty-one from 6 months to 1 year; thirty-six from 1 to 6 months, and fifty-nine, 1 month and under. The total number of Patients that had been under the care of the Infirmary since its Establishment, was 1553, of whom, 737 had been perfectly cured.

On the 29th of November, in the same year, the following Advertisement from the Physicians of the Infirmary appears:—

"*Worcester Infirmary*, Nov. 28, 1750.

"We find that the horrible Fits of Epileptical Patients taken into the Infirmary, are so dreadful and shocking to the other Patients, that they do not recover from their terror for a great while after seeing one of them; they also give so great a disturbance, especially when they happen in the night, (for the whole ward is often employed in keeping Epilepticks from hurting themselves,) that the other Patients cannot rest for them. We therefore hope that no Gentleman or Lady will recommend such as In-patients for the future. Signed,

J. Attwood, J. Mackenzie,
T. Cameron, J. Wall."

On the 29th of August, 1751, the Annual Meeting is stated to have been held. The Sermon was preached at St. Swithin's, by Dr. Jenner, the Cathedral being under repair. From the Report, it appeared that 1948 sick and poor objects had been admitted by the Infirmary; and, in most cases, had received a speedy and perfect cure, which, it was hoped, would soon increase the friends of so compassionate and useful a design, as the certain income of the Charity did not defray the certain expense, much less justify an increase in the number of beds, which was much wanted.

On the 15th of February, 1753, a Legacy, from Martin Sandys, Esq. is noted, which was bequeathed as follows:—"Item, I give Fifty Pounds to the Worcester Infirmary; a Charity so transcendent in its nature, that I am not master of language sufficient truly to express my sentiments, or to set forth the excellencies of it. May it never want the assistance of such Physicians and Surgeons as it has hitherto had, and then I please myself with

the thoughts that it will be perpetual, or, at least, continue till there shall be no further use for an Infirmary."

On the 16th of August, 1755, the Infirmary not being so well supported as might have been expected, a Special Meeting was held to consider of proper means to induce people of substance in the County, to give their assistance.*

On the 22nd of April, 1756, an Advertisement states that, at an adjourned meeting on the 19th, it was ordered, "that two of the Governors, residing in the City, and parts contiguous, be desired to attend the Hospital, as weekly visitors, by alphabetical rotation, to inspect the affairs of the House." This was the commencement of what is now called the Weekly Board.

But there seems no part of the History of the Institution so well deserving attention, as the account of the circumstances that led to the removal of the Patients from the confined House in Silver-street, and the erection of the present commodious Building. This is pretty fully given in the Reports which have been published, of the proceedings of the Governors, and are still extant.

The report for the year 1757, states that "all the Wards are furnished, and the number of Beds in them amounts to 44."

In 1764, the Report says that, "the increase of the Income, as well as of the number of Patients relieved by this Infirmary, is an evident proof of its utility, and of the satisfaction it has given. From very small beginnings, in 1745, it has grown to contain 48 Beds, which are almost constantly full, and more are often wanted." The Governors also notice that "the Expense of Medicines is very considerably lessened, insomuch, that by a comparison made by Edward Garlick, Esq. of Bristol, it appears that the Patients of this Infirmary are, on this account, much less expensive to the House, than those of almost any other Infirmary in the Kingdom." The first expression of a desire to erect a larger and more commodious Building, also occurs in this Report. "It were much to be wished that the Patients were lodged in a larger and better situated House, but this is an expense which, at present, the circumstances of the House will not admit of, and the Governors must wait for the further assistance of charitable and well-disposed persons."

In the Report of the following year, the Governors speak much more strongly on this subject, and say that "they find it necessary to think of purchasing or erecting a more convenient Edifice for the reception of the Sick, the present Buildings being in a ruinous condition, and necessarily requiring constant repair, at a considerable annual expense. The number of Beds also being increased, and almost always full of Patients, the Rooms are found

* The following Notice, as characteristic of the time, appears worthy of insertion. "Last week, one Mary Jones was severely whipped at the Cart's Tail, through part of this City, for ungratefully stealing some wearing apparel from our Infirmary, on her discharge from thence, when she had been compassionately admitted an In-Patient, and cured of an obstinate disorder."

so close and incommodious, that it is not only disagreeable to the attendants on the Sick, but extremely injurious to the Health of the Patients, the Air of the Wards being rendered unwholesome for want of room and ventilation."

After the promulgation of their wishes, the Governors did not remain long unsupported by public aid, for they were enabled, in 1766, to make known their intention of erecting a new Building forthwith, Edward Garlick, Esq. of Bristol, having given a donation of Two Hundred Pounds, with which sum, a LEASE of a convenient piece of ground was purchased, which was enclosed by a Wall, with all possible expedition. A Subscription* was opened for a New Building, which met with great encouragement, and when this was followed by a more particular application to the distant parts of the County, the Governors were enabled to proceed in the good work.

The chief object the promoters of the New Building had in view, appears to have been, to recommend an enlargement of the Infirmary, and an increase in the number of the Wards, as measures well calculated to remove the evils under which it laboured, and to promote and extend its utility. We may form some opinion of the deplorable state of the Old Building, from the strong language used by one of the Governors in urging the necessity of a new one. He says, "Excuse me if I here appeal to the Gentlemen of the Faculty, and the Surgeons, and ask them, if the close, confined, and incommodious Rooms of your present Infirmary, (if it may be so termed without abusing the name,) has not frequently been the means of counteracting their best endeavours, by rendering the cure of the Patients more tedious (if not more precarious,) than otherwise it would have been. Not to say how disagreeable and offensive it must be to those who are under the necessity of attending them."

It was, in the highest degree, beneficial to the interests of the Institution, that at this time, the Infirmary had, in Mr. Garlick, of Bristol, a liberal and enlightened Patron, who not only gave considerable pecuniary aid, as before observed, to the advancement of the good work, but also deserved the highest praise, for the knowledge and zeal he displayed in pressing on the consideration of the Governors, the necessity of erecting the New Infirmary, in such a manner as to reflect credit on the age in which it was built. The Governors desired this Gentleman, on the 2nd of October, 1765, to report to them his sentiments in regard to building a New Infirmary; which he did so fully and perspicuously, that they eventually put his plan, in a great measure, into execution. The following are the principal circumstances to which he calls their attention. "Previous to entering minutely into the affair, it may be proper to premise some observations, which to me appear highly necessary, viz.; appropriating room sufficient for the Building rather to super-abound, than to take

* Sir John Rushout himself gave £500 towards the New Building, and was indefatigable in his exertions to procure Subscribers.

up with a scanty allotment; an error of this kind is irretrievable, and must afford a perpetual disgust, as well as inconvenience. Detaching the Washery from the Buildings, is a thing of great moment, as it affords noisome steams and effluvia to the parts adjacent. This was experienced at Bristol Infirmary, to such a degree, as to render one or more Wards so offensive, that it could not be borne with, and, at the request of the Physicians and Surgeons, it was removed to a proper distance. Private Necessaries, or rather Water Closets, situate with the greatest convenience for the various Wards, and a constant supply of Water, are of great utility, and should be obtained at any cost. For want of Water to cleanse them, the Necessaries at Exeter Infirmary are greatly offensive; double doors, and other contrivances, all prove but partial remedies. It may now be thought time to offer somewhat relative to adopting a Plan for Building. It is presumed, that in this, every one will be desirous of having such as is best suited to answer the purpose designed. On comparison and enquiry, I have reason to think that Gloucester Infirmary is as commodious and complete a structure of the kind as any this Nation produces; I confess, for my own part, its simplicity and elegance present something striking to the imagination, and seem likely to captivate the spectator. The Gloucester Infirmary is allowed to be a roomy, plain, strong, and useful Building, every way adapted to the design, insomuch, that were it now to be rebuilt, it could not be improved in contrivance, nor application, nor propriety of particular offices, of which there is not one too many, either below or above, although it must be confessed they are very numerous. The Rooms in general, and the Wards in particular, are very lofty, the lower being 15, and the upper 14, feet high; this alone gives the House an appearance of dignity and magnificence, whilst nothing can contribute more to a salubrious and pleasant Air, which should always be considered for the benefit and comfort of Infirmaries.

"On the whole, it appears to me, that Gloucester affords a complete Plan, and such as best answers the purposes intended, and, indeed, all which can be desired. Perhaps some may object to the size, and say that a much less will suffice, and answer our design, and will be less expensive.—To which, I reply, that restricting the Building within a narrow compass, may be the means of obstructing much good which otherwise might be effected. May it not be better to superabound in room, than to want it? The additional charge in Building, when begun, cannot augment the cost so much as to afford a reasonable objection against carrying it to a proper extent. This kind of Charity is absolutely necessary, and, in futurity, may be more extensive than we at present conceive of; and would it not be wrong to cramp what may be of advantage to our successors? As to the seeming expense, this may appear to some quite horrible, and consequently, forbidding; but, perhaps, upon examination, it may prove to be only a bug-bear, a mere phantom.

Our wise Creator has constituted our frame in such a manner, that the sense of vision greatly affects the mind; a pleasing object cannot fail of making an impression.—Trust me once for a *rational Prophet*, and I will venture to predict, that such an Infirmary as that at Gloucester, will gain Benefactors and Subscribers equal to the design, when any thing mean will be regarded only with contempt. For my own part, I earnestly wish that it may reflect honour on the planners of it, that ages yet unborn, may be convinced that their Progenitors possessed not only a taste for real use and simplicity in Building, but had likewise spirit to put it in practice, and may arise and call them blessed for what they then enjoy."

These arguments, the genuine offspring of Knowledge and Philanthropy, had their full effect upon the Governors, who immediately proeeeded with the undertaking, on the liberal plan recommended by Mr. Garlick.

The Building of the Infirmary was begun in March, 1767, and it was occupied by Patients at Michaelmas, 1770. The cost of its erection was £6085. 9s. 9d. of which, the sum of £3463 was collected by voluntary subscriptions; the rest was taken out of the Funded Property belonging to the Institution.

Dr. Nash says, "it might seem vanity in him to say, that he was the principal mover in this design, that he was one of the first Subscribers, assisted in making the contracts for the New Building, and attended constantly the execution of them. He has the satisfaction to think that all was well done; that the House is large, commodious, and perfectly strong; that the whole of the Plan was executed with great frugality and economy, and, it is hoped, will continue for ages, an honour to the County, and a comfortable Asylum to many Sick and Lame, whose narrow circumstances will not allow them proper assistance by other means."*

The Building, when completed, was fitted up with Beds, and other proper accommodations, for 48 Patients.

Having thus brought down the narrative, from the commencement of this valuable Institution, to the completion of the New Building, and, we hope, given a full and perspicuous account of these two important events, it will not fall within the scope of our plan, in pursuing the History of the Charity, to enter into details concerning those periods of it, when the stream of its affairs ran evenly, undisturbed by any particular Flow or Ebb of its Prosperity. We remark, that the Institution seems to have been much straightened in its resources for several years after the completion of the Building. In 1777, when there were only 30 Beds, the Report states, "the necessary charges of

* The Worcester Infirmary claims the honour of being, in point of time, the fifth provincial Institution of its kind in this Kingdom. It was followed by Gloucester in 1756, and though Mr. Garlick recommended Gloucester as a Model for the New Building at Worcester, it must not be forgotten that the original Institution was founded, as before stated, in 1745.

Building and the Furniture of the House, have obliged the Governors considerably to diminish their capital, so as to render the certain Income of the Hospital insufficient for the Expense of that number of Patients which is at present received; more Patients might be taken in, if the Funds were more ample. It is, therefore, earnestly wished, that all those who are blessed with the Enjoyment of Plenty, may be animated by a Spirit of Benevolence, and contribute, as they have Ability, to diffuse the Benefits of this Charity still more extensively, and secure them upon the most lasting foundation."

Five years afterwards, however, (1782,) the Institution received very salutary aid, from a noble and generous Legacy of £500, bequeathed by Mr. Hall; and several others of smaller amount, which was most gratefully acknowledged by every friend of the Charity. But, notwithstanding these acquisitions, the Annual Expense remained greater than the Annual Income, because the Governors immediately extended the utility of the Infirmary, by increasing the number of Beds to 58, trusting that all well wishers to the Establishment would still persevere steadily in its support, not only by a continuation of their Subscriptions, but also by exerting their utmost endeavours to obtain additional Contributions from those who, for want of proper applications, had never yet lent their assistance to so good a work.

There seems to have been, at this time, and long afterwards, great difficulty in obtaining from the Subscribers, that steady Personal Inspection of the Affairs of the House, which is so necessary for the success of such an Establishment. The Governors, feeling that they could not hope for any permanent prosperity of the Institution, without they succeeded in effecting so desirable a purpose, spared no pains to impress this consideration on the public mind. They say, "within two years after the Hospital was established, *all* Subscribers were requested to satisfy themselves concerning the application of their Money, by inspecting the Books; and such as lived within a convenient distance, with sufficient leisure, were particularly desired to give a regular attendance at the Weekly Board; requisitions of this kind have been constantly repeated ever since, and, as constantly disregarded, although Subscribers of one guinea per annum were made Governors for that particular purpose. In consequence of which neglect, the whole trouble of admission, as well as the future management of the Patients, devolves upon the Phycicians and Surgeons."

In 1784, the Funds being deficient, 8 Beds were ordered to remain empty; but, apparently in consequence of an appeal to the Public, made by the Clergy in 1785, the succeeding years, till 1792, were more prosperous; the constant application for assistance, made by the Friends of the Charity, being crowned with partial, though not complete success. The increase in number, and amount of the Legacies, principally caused this improvement in the affairs of the Charity, for the amount of Annual

Subscriptions did not, during this period, become much greater; and the Governors still felt it necessary to be very solicitous in their applications for aid. "The rich," they observe, "only can bestow large sums, and to them this Charity must look principally for support; but a little contributed by the many, might make a handsome addition to the revenue, and enhance the usefulness of the Infirmary. The mite, the benevolent offering of a good heart, in low estate, may be put into the Charity Boxes. Herbs may be given for the use of the Apothecary; Linen Rags for the Surgeons; and even Household Necessaries, delivered to the Matron, will be acceptable. *A Charity*, which directly or indirectly, diffuses its benefits to all, claims the attention of every person, and support of every kind." The Governors seem now, as the support they received was on the increase, to have thought, they could not do better than unhesitatingly to place reliance on the Public Bounty, and, accordingly, augmented the number of Beds to sixty-five. The Funded Property had, at this time, increased from £2,600, to £4,500. Notwithstanding this improvement in the Finances and Increase of Capital, the Governors were still very frugal in their expenditure; for great inconveniences were complained of, from the House not having a sufficient supply of Water; but this defect was not remedied, because the expenditure was considered too heavy for the Institution to bear.

The bright prospects of amendment in the affairs of the Charity, we grieve to say, were of very short duration: five years had not elapsed, before the Establishment had to encounter renewed and even greater difficulties; which were, indeed, the prelude to a long period of distress. "Shadows, Clouds, and Darkness," seemed, for some years, to hang upon the Institution, and almost to threaten it with Ruin: but the event has only served to prove, that the Infirmary partakes of the imperfections of Man, and Man's Works; and that it requires the constant zeal and exertion of its benevolent Patrons, to preserve it from decay. Happily, the Charity did not want the assistance of those whose talents and energy fitted them for the task of retrieving it from its low Estate. As one means of effecting this desirable object, a circular letter was, October 6, 1797, addressed to the County, in which it was stated, that "apprehensions for the welfare of the Charity, necessarily suggested by a view of its Expenses the two or three last years, when compared with the ordinary means of supply, induced such of the Governors as usually inspect its affairs, to intimate some time since to the Public at large, the need there was for enforcing those Rules which restrict the Admission of Patients, and even for diminishing the Number of Beds in the Hospital—a measure which, with the utmost reluctance indeed, they were afterwards obliged to adopt. Agreeably to the same caution, a Committee was appointed at the last Anniversary, with powers to investigate the management in every department of the Institution. Their work

has been attended to with diligence; economical Regulations are proposed; and, after a sufficient trial, it is hoped some benefit may be produced.

"Yet, weighing every circumstance, the Governors, assembled this day at a General Quarterly Meeting, cannot but be sensible that they shall endanger too much the future Support of the Charity, if they neglect to implore the assistance of a generous and benevolent Public.

"They recollect with satisfaction, the success of a former application of this kind, in the year 1785, and with gratitude they acknowledge, that their List continues augmented by Permanent Subscriptions, to the amount of Two Hundred Pounds. But, when they observe that the present Annual Expense of the Establishment, occasioned, in great part, by the advanced price of every necessary article, exceeds that of the former period, by more than Four Hundred Pounds; they cannot be thought to act with presumption in this their renewed address to the Public Bounty. After requesting, therefore, that the present Subscribers will make their payments with as much regularity as possible, and hinting to some in opulent circumstances, the farther aid they may afford by an Increase of their Subscriptions, the Governors earnestly entreat every one who is blessed with the Ability, and has not stood forward in the support of so good a work, to assist in its future maintenance by Annual Subscription; they represent to others, that the smallest Donations, conveyed to the Ministers of their respective parishes, will be accepted with thankfulness; they firmly persuade themselves that ALL will befriend a Charity which daily extends its influence to a number of miserable objects, and employ their utmost exertions, lest the accustomed sources of health and comfort be henceforth unfortunately stopped."

The effect of this appeal was very benefical to the Infirmary; for, in consequence of it, a considerable debt was discharged, and some addition made to the Funded Property belonging to the Infirmary; but the Annual Expenditure continued to exceed the certain Income of the Charity, though several beds were disused, in order to lessen the Expenditure; and the Governors, for many years, concluded their Annual Reports, by saying that, they, "in the most earnest manner, called on the Public at large for assistance, that they might not be under the painful necessity of reducing the Establishment of the Charity beneath the wishes of the Subscribers, and the Wants and Necessities of the afflicted Poor, who were capable of being relieved by it."

But, in this period of distress, the Affairs of the Charity were happily conducted by individuals who were well qualified for the task of retrieving its condition; and several measures were adopted to augment its income.

At the Michaelmas Meeting, in the year 1801, Dr. Nash in the Chair, it was ordered, "that a circular Letter be written to the Clergy of the Diocese, requesting them to preach Sermons

in their respective Churches, soliciting aid for the Infirmary." And, amongst other Benefactions, the profits of a Ball at the Town Hall, amounting to £105, were given to the Charity. In August, 1802, Messrs. Ballard, Barr, Harwood, and Tymbs, the Committee of Management of the Worcester Bread Institution, by direction of the Subscribers, invested the Surplus Money of that Charity, in the purchase of Two Hundred Pounds, 3 per cent. Bank Annuities, the Interest of which Stock is applied annually to the benefit of the Infirmary.

In April, 1803, the sum of Three Hundred Pounds, 3 per cents. was also obtained, through the Interest of Dr. Nash, from Mr. Hawkins' Brown's Charity; and in 1805, the late Mr. Alderman Forrest, and Mr. Barr, the latter of whom was, for years, unwearied in his exertions for the advancement of the Institution, received the thanks of the Governors, for their zeal in promoting the benefit of the Infirmary, and particularly for having succeeded in materially increasing the amount of the Annual Subscriptions.

We may here remark, that the main cause of the distress of the Institution, during this period, appears to have been the great increase in price of all the necessaries of life; as a consequence of which, during all those years in which provisions were more than usually dear, the Revenue of the Infirmary, from Subscriptions and Benefactions, was inadequate to the Expenditure. It was the custom with the Governors, to meet this difficulty, by reducing the number of In-Patients; and thus, during the years to which our observations are now directed, we find a great variation in the number of In-Patients. In the year 1800, it appears, by the Report of the Auditors, that 62 Beds were occupied; whereas, in the year 1804, we learn, from the same authentic source, that the number of In-Patients did not exceed 24.

We cannot avoid remarking the gratifying fact, that notwithstanding the untoward events that occurred during these years of distress, so much lessened the benefits of the Charity, yet the Governors, by clever management, were enabled to increase their Funded Property from £4,500 Stock, to £7,245 Stock.

The year 1812, should ever be memorable in the Annals of the Infirmary, for with it seem to have ended the pecuniary embarrassments of the Charity. The friends of the Institution had been for years unabated in their endeavours to place the affairs in a more secure condition, and they eventually succeeded in their good intention.

The Lord Bishop of the Diocese, whose zeal on all occasions for the interest of the Infirmary, has been conspicuous, being convinced of the necessity of some more extended aid, graciously consented to request the Clergy of his Diocese to preach Sermons for the benefit of the Institution; by which means, the very liberal sum of £1,483 2s. was obtained. Not long previous to this event, the produce of a Bacon Charity, amounting to £200, had been also given, for the purpose of being vested in the Funds.

These salutary and effective additions to the Receipts of the Infirmary, not only enabled the Governors to discharge a debt they had long owed to their Treasurers, but likewise to increase their Funded Property.

We now can enter on a very pleasing and interesting detail of facts relating to the rapidly progressive improvement of the Finances, and the equally progressive improvement of the Hospital, in other respects.

From the commencement of the Infirmary in the year 1745, to the year 1792, a period of 47 years, the largest Legacies did not exceed £500, and only amounted to that sum in two instances. In the last-named year, Mrs. Ursula Smith left £1,000; but since the year 1812, several large Legacies have been left, and some most munificent. "We now proceed," say the Auditors, in their Report ending July 31st, 1815, "to the pleasing duty of enumerating the several Acts of Benevolence, by which this year has been peculiarly distinguished. By the Will of the late Mr. Robert Vellers,* of this City, we are become possessed of the immediate Interest of £3,000, (of the principal within two years,) and of a reversionary Property, of a Capital of £3,000 more, upon the deaths of two persons therein named. By that of the Rev. John Carver, late Archdeacon of Surrey, we are named one of ten Public Charities, entitled to residuary Legacies of considerable, though yet unknown extent, but of which his Executors have already paid us £1,000."

But not only has the Charity been highly favoured by the Influx of Legacies. It has also experienced a great Annual Saving, from the reduced price of provisions, since the Peace of 1815.

These favourable circumstances have enabled the Governors to direct their attention to improve and enlarge the Edifice.

The first result of this kind, occurred in October, of the year 1818; when the Physicians and Surgeons represented to the Governors the necessity they felt of having an increase made to the number of Wards, in consequence of finding the Beds constantly full, and the Wards crowded. The Governors immediately ordered two Attics, which had been only used as lumber rooms, to be fitted up with ten Beds, for the purpose of separating the Patients afflicted with sore legs from the others.

In the year 1820, a Room was fitted up, at a considerable expense, with Baths, not only for the advantage of the Patients, but also for the accommodation of the Public.

These arrangements, however, were not found sufficient to answer the purpose which the Gentlemen of the Medical Department had in view; for it was found that the number of Patients

* The Prophecy of Mr. Garlick, that the liberal Plan on which the Infirmary was built, would ensure Benefactors equal to the design, was never so remarkably fulfilled as in this instance. Mr. Vellers, who was not a Subscriber to the Infirmary, took refuge in the Building during a Thunder Storm, and was so struck with its accommodations, that he soon after made the above Bequest to it.

continued to increase, and that the accommodations of the House were not sufficient for them. Opportunities, as they occurred, were not neglected, of pointing out to the Governors, the necessity of some improvement and enlargement of the Building, and in consequence of repeated solicitations, an addition was, in the year 1823, made to the north wing of the Edifice. This enabled the Governors to add twelve Beds to the lower and middle Wards, and also to have the long wished for convenience of Water Closets, at the north end of the House, which were fitted up in a modern and most approved manner. Five Beds were also obtained, in a separate Room, in the north-west part of the Building.

The chief object, however, that the Physicians and Surgeons had in view, in recommending these additions, which was so to increase the number of Wards, as to separate the worst cases of disease from those of a less severe nature, was not gained.

This object was distinctly stated to the Governors, and to the Architect employed, and promises were then given by the Architect, that the new part of the Building should be so constructed, as to remove these objections. It is much to be regretted that these promises were not fulfilled. It was found, on the completion of the Work, that there had been added, only a single Ward of small size, with the enlargement of two Wards before existing. Thus the long desired arrangement for the classification of Patients, proved almost abortive.

The evils and inconveniences resulting from the above neglect, in making the alterations in 1823, so far, gradually increased, and were productive of such injurious effects to the Patients, that at the Quarterly Meeting, held December 30, 1825, the Medical Board delivered a Memorial to the Governors, in which it was stated that great evils had been felt from the want of accommodations for the classification of Patients; that new diseases, diseases before unknown to the Patients, were generated, while existing disorders, which, under other circumstances, might have admitted an easy and effectual cure, too often terminated fatally; and that Erysipelas and Gangrene, not unfrequently dangerous in their issue, were found to prevail in the Worcester Infirmary, to a greater extent than in other Establishments of a similar nature.

It was stated that, from the confined limits of the Infirmary, it became necessary that the windows should be kept almost constantly open, and that Patients affected with Pulmonary and Rheumatic complaints, were constantly exposed to currents of air, which, from the nature of these complaints, were often very injurious to them.

These evils were not mentioned without suggesting means of relief. It was stated that, by some enlargement of the Building, and an increase in the number of Wards, a remedy for them might be found, and that the utility of the Infirmary would, at the same time, be promoted and extended.

It was, in this view, further stated, that under these new arrangements, inconveniences might be removed, long subsisting, from the deficiency of Water Closets, at the south end of the House; and that hence too would arise the means of appropriating an apartment, of which the want had been much felt, for the purposes of Operative Surgery.

Various difficulties arose in the minds of some of the Governors, in regard to the addition of a wing to the south-west end of the House, similar to that erected in the year 1825, at the north-west end. By several of the Governors it was considered, that the expense of making such an addition to the Building, would be too great for the Funds of the Infirmary to bear. After, however, several discussions, in which the necessity of making some improvements in the state of the House, was, on all hands, agreed upon; the Monthly Board, to whose consideration the question was referred, came, on the 19th of July, 1826, to the following Report.

"To meet the difficulties complained of in the Memorial of the Faculty, it is proposed that a Wing be erected at the south-west extremity of the Building, similar to that built a few years ago at the north-west extremity. The upper room of the Wing it is proposed to appropriate to the purposes of Operative Surgery, and to convert the other part of the additions into small Wards. The Estimate of the Expenditure, of the alterations made in this manner, is £1,309.

"In regard to the state of the Finances, the Committee further Report, that they do not conceive that, under all circumstances, it would be prudent to diminish the Funded Property belonging to the Infirmary, and therefore advise, that to meet the Expenditure which may be incurred by the proposed alterations, the sum of £500 be taken from the Legacies, and the remaining sum be raised by Voluntary Contributions, to be collected from benevolent individuals, in such manner as the Special General Meeting shall appoint."

No further steps were taken in this matter, until September 29, 1826, when, at a Special General Meeting, called to take into consideration the enlargement of the Building, it was stated by one of the Governors, that there was much doubt whether the Infirmary would not soon be placed in an awkward predicament, by the expiration of the Lease of the Ground on which it was built. For it was a general opinion that such Lease had been illegally granted by the Corporation, and could not be renewed. There appeared still to be but one opinion, that the improvements must be proceeded with, but it was thought advisable to ascertain the real condition of the Lease, and the probability, if any, of the Governors being exposed to difficulties from this cause. The Meeting was consequently adjourned to 10th November, 1826, and a Committee was appointed to enquire, in the mean time, into the Title by which the ground was held.

At the Adjourned Meeting, held 29th December, 1826, it was resolved, on the recommendation of the Committee, that under all the circumstances of the case, it was not expedient for the Trustees of the Infirmary to take any further steps on the subject of the Title of the Infirmary Ground and Building. At the same Meeting it was also resolved, that Water Closets and an Operating Room be built, under the advice of the Medical Gentlemen; and, on the 30th of March, 1827, it was resolved, that the suggestion contained in a communication from the Medical Gentlemen of this Institution, with respect to substituting the Board Room for a Chapel, be adopted, as a temporary expedient, and that the Medical Gentlemen be authorized to apply the present Chapel for the purpose of an additional Ward. It was also agreed that the large room on the east side of the House, before used for a Dormitory for the Nurses, should be converted into a Ward.

These desirable improvements were, as speedily as possible, carried into effect. The two large rooms, one on the eastern and the other on the western side of the House, were immediately appropriated to the reception of Male Patients. Eight beds were brought out of the men's wards, and in these rooms Medical Cases have been ever since received.

The Building of the Water Closets was commenced in the Spring of 1827, and finished by the termination of that year. The Operating Room, however, has not yet been commenced, but of the cause of this delay we are ignorant.

The Edifice, in its present state, is fitted up to contain 100 Patients. This is more than double the number admitted at the time of the Building of the Infirmary. It is of great importance to bear this circumstance in mind, as, with the exception of the small addition in 1823, there has been no enlargement of the Building since its foundation, consequently, the House must be much more crowded than during the earlier periods of its history.

The Government of this Charity is vested in the hands of certain Governors, and the Society acts and is distinguished by the name of the *Governors of the Worcester Infirmary.* Such of the Nobility as honour the Institution with their patronage and support, are Presidents. All Annual Subscribers of Five Guineas, or Benefactors of Fifty Guineas, are Vice-Presidents; and all Annual Subscribers of One Guinea, or Benefactors of Twenty Guineas, are Governors, and may attend and vote at all Committees or Meetings of the Governors.*

A General Meeting of the Governors is also held at four stated times in the year, namely; on the first Friday after Christmas-day, Lady-day, Midsummer-day, and Michaelmas-day, to investigate the general concerns of the Charity; and the President of the preceding Quarterly Meeting is empowered, on giving one week's notice in the Worcester Papers, to call a Special Meeting of the Governors on any business of emergency.

* An Anniversary Meeting is annually held, at which any Governor may attend to receive the Report of the last year's proceedings.

A Committee, consisting of twelve Governors, six of whom go out annually by rotation, together with any of the Presidents or Vice-Presidents who choose to attend, and the two Auditors, meets on the second Wednesday in every month, for the purpose of superintending the affairs of the Charity, and of issuing such intermediate orders as they may think necessary between the respective Quarterly Meetings.

A Committee of four Governors meets also every Saturday Morning, at eleven o'clock in the forenoon, at the Infirmary, to inspect and regulate the affairs of the House, and especially to examine into the quality of the Provisions ; to visit the respective Wards, and satisfy themselves as to their general cleanliness and good order, and the general comfort of the Patients. Any individual Governor may likewise personally inspect the state of the Patients, at any seasonable time ; and, if any matter shall occur which he may deem worthy of public notice, he may report the same to the Weekly, Monthly, or Quarterly Board.

Each contributor to the Infirmary, for every Guinea subscribed, has a right to recommend one In-Patient, and one Out-Patient, within the year.

A General Report of the state of the Infirmary, and of the number of Patients received and discharged within the year, with an Abstract of the proceedings of the Governors, and of the Accounts of the Infirmary, is drawn up at the end of every year, and published before the Annual Meeting, for the satisfaction of the Contributors.

There are four Trustees, in whose names the Funded Property of the Infirmary is vested ; and two Auditors, who inspect the Quarterly Accounts prepared by the Secretary. The duty of the Secretary is to be present at all the Meetings of the Governors, to keep the Books and Accounts correctly, and to write all Letters and Advertisements that are directed by any Board of Governors.

The Medical management of the Institution is confided to three Physicians and three Surgeons, with one Surgeon-Apothecary, who resides in the House. The services of the Physicians and Surgeons are gratuitous, in consideration of which, from the commencement of the Infirmary, they have been vested with the privileges of Governors. They have votes at all Boards, and each Physician and Surgeon may annually recommend five In-Patients, and three Out-Patients.

When any vacancy happens in the office of Physician or Surgeon, the Weekly Board summons a General Board to fill up the vacancy, unless the stated General Quarterly Board happens within forty days, and the Election is determined by Ballot. For some years after the establishment of the Infirmary, the House Surgeon was elected by the Physicians, but of late years the election of this Officer has been made by the Governors at large, in the mode above stated. The House-Surgeon receives a Salary of £80 per annum. He resides in the House, and is

never absent at night without special leave from the Faculty. He is not permitted to practice on his own account. He takes care of the Drugs, Medicines, and Utensils in the Dispensary, and also of the Surgeons' Instruments. He makes up and delivers out all Medicines ordered by the Physicians and Surgeons. He goes round the Wards every morning, previous to the dressing time of the Patients, and acquaints himself with the state of every Patient, and enters in a Book kept for the purpose, whatever may be material to report to the Physicians and Surgeons. It is also his duty to fix a Ticket over each Patient's Bed, on his or her admission, specifying the name of the Patient, and of the Disease; the date of admission, and also the name of the Physician or Surgeon under whose care the Patient is placed. He is permitted to take one Apprentice, whom he is bound to transfer to his successor, in the event of his leaving the Infirmary during the term of the apprenticeship, which is not allowed to be less than five, nor to exceed seven years. The Apprentice pays a premium of £250 to the Infirmary, and £20 to the House Surgeon, at the time of executing the articles; and the further sum of £10 to the House-Surgeon, at the expiration of the first three years of his apprenticeship.

One of the Physicians and one of the Surgeons, by rotation, see the Patients that are sent to the Infirmary every Saturday morning, by the Subscribers; and such as appear to the receiving Physician and Surgeon to be real objects of the Charity, are admitted by the Weekly Board on that day; but at no other time except on sudden emergencies, and in such cases as, in the opinion of the receiving Physician or Surgeon, will admit of no delay, in which cases the House Surgeon receives Patients into the House immediately.

The In-Patients of the Infirmary are seen by their respective Physician or Surgeon, at such times as seem necessary; and the Out-Patients attend at the Infirmary, to have advice, once a week. Those who reside in the Town on Wednesday, and those in the Country on Saturday morning.

A Chaplain attends regularly twice a week to read Prayers to the Patients collectively, and he also visits any Patient desirous of seeing him, at any time he is sent for. Any Patient in the House, who is desirous of having the consolation of being visited by a Minister not of the Church of England, is at liberty to send for him, by giving notice to the Matron or House Surgeon.

The Domestic Economy of the House is under the management of a Matron, who receives £35 per annum.

There are six Nurses; five of whóm attend to their respective Wards during the day, and the sixth is the Nurse on whom the care of all the Patients devolves during the night.

The number of female Servants, on whom the cooking, cleansing, and other necessary offices in the House depend, is three; and a Porter is constantly in attendance at the front door, to prevent provisions or any other articles being brought into the

House, contrary to its Rules. We believe now the only remaining Servant we have to mention, is the Baker and Brewer, who, with those before enumerated, makes up the Establishment of Servants kept by the Governors of the Infirmary, to attend to the comfort and wants of those Patients that are admitted into it.

The Revenue, by which the Expenditure thus occasioned is liquidated, arises from various sources, but principally from Subscriptions, Donations, Legacies, Rent, and Fines. The Infirmary likewise now possesses a considerable Funded Property, the Dividends from which make up a large part of its income. But there are other sources from which, in times of difficulty and distress, the Infirmary has derived most essential support. The Nobility, Gentry, and Clergy, of this opulent and enlightened County, have never suffered means to be long required to carry on so noble an Institution. They have, on every needful occasion, called in more efficient and extended aid.

We think we cannot, in conclusion, better impress on the mind of the reader, the progressive advancement of this popular Establishment, than by laying before him an Abstract of the Statements, published by the Governors at three separate and distant periods of time; and for this purpose we shall select the statement published soon after the commencement of the Institution; that published in the year 1772, after the new Building was completed; and the one published in the year 1828.

The History of the earlier years of the Establishment, we have before observed, is very imperfect, and on this account we are not able to give an accurate Statement of the Accounts, earlier than 1748; the Report for which year we have been enabled to obtain; from which it appears that the total Income of the Charity for that year, did not exceed £452; of which, the sum of £319 8s. 6d. was in Subscriptions. The total Expenditure for the same year, considerably exceeded the Income, as it amounted to £530 4s. 5d. In the appendix to Bishop Maddox's Sermon, however, there is a short Statement of the Accounts, and of the Patients, from the year 1745, and this we shall copy.

State of the Accounts, from January 11, 1745, *to March* 25, 1747.

	£.	s.	d.		£.	s.	d.
General Receipts, ...	775	10	1¾	Expenses,.....	612	17	8¾
				Balance in hand,.....	162	12	5
	775	10	1¾		775	10	1¾

From March 25, 1747, *to October* 18, 1747.

Balance of last Account,..	162	12	5	Expenses,.....	172	6	11¾
Received since, ...	277	16	6	Balance in hand,.....	268	1	11¼
	440	8	11		440	8	11

State of the Accounts, from October 18, 1747, *to October* 14, 1748.

Balance, ...	268	1	11¼	Expenses,.....	530	4	5
Received,.....	452	8	11½	Balance in hand,.....	190	6	5¾
	720	10	10¾		720	10	10¾

Account of the Patients, from January 11, 1745, *to March* 25, 1747.

	Admitted.	Cured.	Relieved.	Discharged for Incu.	Misbehav.	Non-Att.	Dead.
In-Patients,..	106	45	7	10	4	—	8
Out-Patients,	204	78	15	12	—	28	7
	310	123	22	22	4	28	15
From March 25, 1747, *to October* 18, 1747.							
In-Patients,..	81	25	6	4	—	—	4
Out-Patients,	167	56	6	2	5	36	9
	248	81	12	6	5	36	13
During this time there were no more than 23 Beds.							
From October 18, 1747, *to October* 14, 1748.							
In-Patients,..	158	79	15	10	—	—	8
Out-Patients,	244	93	12	5	4	53	9
	402	172	27	15	4	53	17
Total from the opening of House,....	960	376	61	43	13	117	45

There is much want of authentic information relative to the affairs of the Infirmary, from the time above mentioned, to the year 1772, two years after the Patients were removed to the new Building; and it may justly excite our surprise, that no Statement of the Accounts appears to have been published by the Governors for two years after the completion of this admirable Work. The Report for 1773 begins by stating that, "the steady Support the Charity has met with since its first establishment, gives the Governors the pleasing hope, that the conduct of it has met with the approbation of the Public; the daily cures performed, give evident marks of its utility, as well as of the great skill and abilities of the Physicians and Surgeons who are so humane and generous in their attendance. The time which all friends of this Charity have so long most earnestly wished for, is now arrived, when the Patients will be blessed with wholesome Air and proper Accommodations, the want of which has often obstructed their Cure; and, it is hoped, that by the Blessing of God, the Benefit of this Charity may, in future times, be more widely extended."

The state of the Accounts then follows;

The Accounts of the Hospital, from Midsummer, 1772, *to Midsummer*, 1773.

Receipts.	£.	s.	d.	Disbursements.	£.	s.	d.
Balance,.....	21	17	6¾	Expenses in Housekeeping,	498	11	9¾
Annual Subscriptions, ...	659	19	6	Drugs, &c.....	127	13	6½
Anniversary Sermon, ...	75	13	0	Wages and other things,...	115	18	4
Benefactions,.....	145	5	8	Extraordinary Expenditure,	68	9	0½
Stock sold for the Building,	351	16	0	Paid for the New Building,	314	11	11
Dividends on Stock,.....	39	0	0	Balance in hand, ...	171	10	1
Rent, ...	3	3	0				
	1296	14	8¾		1296	14	8¾

	£.	s.	d.
Total Disbursements, on account of the New Building, to the 1st July, 1773, ...	5604	10	1

It is truly gratifying to learn, from this Statement of the Accounts of the Infirmary, that since its establishment, a period of only 28 years, although the Governors had expended annually a considerable sum in supplying the Patients with Food and Medicine, and likewise the sum of £5,604 in erecting a New Building; yet such had been the liberal and cordial Support of the Public, and the economy and good management of the Governors of the Institution, that they had already secured a Fund of £2,600, three per cents. the Interest accruing from which, was applied to increase the annual income. The statement respecting the Increase of the Number of Patients, is equally gratifying.

The State of the Patients, from Midsummer, 1772, to Midsummer, 1773.

In-Patients.		Out-Patients.	
Remaining in the House, July 5, 1772,	48	Remaining on the Books, July 5, 1772,	109
Admitted since,	397	Admitted since,	413
	445		522
Discharged		Discharged	
Cured,	217	Cured,	242
Relieved,	25	Relieved,	28
At their own request,	4	At their own request,	1
Incurable,	2	For Non-attendance, many of them cured,	102
Misbehaviour,	3	Incurable,	3
Dead,	24	Dead,	14
Out-Patients,	125	In-Patients,	24
In the House,	45	Remaining on the Books,	108
	445		522

Total number since the Establishment of the Infirmary, 17,934
Cured, ... 9,522

Since the above time, to the present, the Infirmary has been gradually increasing the number of its Patients applying for relief, as also the amount of its income. It is true, that in this period of 55 years, the difficulties the Charity has had to encounter, were, at times, very considerable; these, however, were always overcome by the sympathy such temporary embarrassment caused in the public mind, producing a corresponding flow of benevolence, and a prompt succour to this casual distress. Of late years, however, there have been no fluctuations of this nature. The prosperity of the Establishment having been uninterrupted by even a temporary check. The report for the year 1827, is less propitious than any for many years before. It says, "the Statement which we now present to the supporters of this admirable Charity, will, we confidently trust, be deemed generally satisfactory, and more especially as regards the diminution of the Annual Expenditure. It will, however, be observed with some degree of concern, that in consequence of certain very important and necessary additions to the accommodations of the Infirmary, which were recommended unanimously

by the Physicians and Surgeons, a considerable Expenditure has been incurred, for the purpose of meeting which, as well as for that of liquidating the debt due to the Treasurers, it has been thought advisable to touch the Funded Property of the Charity. This circumstance, we feel assured, needs but to be known, to call forth that spirit of liberality for which the County of Worcester has ever been conspicuous."

This Report states the number of In-Patients admitted during the year, to be 672; those in the House at the time of making up the Report, 97; and the number of Out-Patients, 540. The total Receipts, £2,396 14s. 9½d.; the amount of Subscriptions is £1162 7s.; and of Dividends, £603 1s. 6d. The total Expenditure, £2,384 2s. 2½d. The Funded Property, £17,000.

STATEMENT OF THE ACCOUNTS, 1828.

Receipts.	£.	s.	d.
Donations,	59	4	1
Legacies,	1000	0	0
Dividends,	591	0	2
Rent, &c.	35	1	0
Premium for an Apprentice,	250	0	0
Fines, &c.	19	11	10
Subscriptions,	1107	15	0
	3062	12	1

Disbursements.	£.	s.	d.
Salaries and Wages,	332	5	0
Erecting Water Closets,	289	17	6
For Drugs, Spirits of Wine, Port Wine, Sugar, Vinegar, &c.	284	10	2
Leeches, 13,375,	60	3	8
Surgeons' Instruments,	17	2	2
Trusses,	19	1	6
Calico for Rollers,	13	17	11½
Provisions, Repairs, and Furniture,	1571	7	9½
	2588	5	9

STATE OF THE PATIENTS.

Total Number under the care of the Infirmary, this year, 1591; *of which Number* 112 *were Accidents.*

In-Patients.	
In the House, June 30, 1827,	97
Admitted since, (including Accidents,)	654
	751
Discharged	
Cured,	423
Relieved,	96
Request,	4
Incurable,	2
Misbehaviour,	8
Made Out-Patients,	110
Dead,	18
In the House, June 30, 1828,	90
	751

Out-Patients.	
On the Books, June 30, 1827,	220
Admitted since, (including Accidents,)	620
	840
Discharged	
Cured,	294
Relieved,	110
Request,	6
Non-attendance,	84
Made In-Patients,	94
Dead,	13
On the Books, June 30th, 1828,	239
	840

Number of Patients Vaccinated this year, 92.
Total Number of Persons Vaccinated from the commencement, 6388.
Total Number of Patients admitted since the Establisnment of the Infirmary, 85,278.

We see, from the foregoing account, that the Infirmary, like other similar Institutions, has arrived slowly, and with variable rates of progression, at its present flourishing and hopeful state.

Although the health of its infancy and childhood was precarious, it has attained a vigorous adolescence, replete with promises of future prosperity: and, if, at this time, its affairs be conducted with a spirit of liberality, commensurate with the enlarged and benevolent views of its founders, we may reasonably hope that each succeeding year will improve its economy, enlarge its accommodations, and extend its benefits. Thus, to the honour of this County, ever distinguished for its noble support of Charitable Institutions, the Infirmary will continue, from age to age, to be the promoter of the best feelings among the rich, and an incalculable benefit to the poor; blessing the former with the sure approbation of Heaven, and the latter with shelter, comfort, and relief, under that most distressing of all complications,—poverty and disease.

[*The description of the Building will be given in the next Number.*]

ARTICLE II.

Remarks on Inflammation,

In which some of its relations to the functions of the Sensorium are considered.

BY J. MALDEN, M. D. WORCESTER.

It has long been known that the symptoms and progress of Inflammation, are not only modified by the situation, function, and relations of the Organ upon which it may fall; but that they also vary materially, according to the nature of the Membrane or Tissue which is the seat of the Inflammation.

Dr. James Carmichael Smyth* was the first writer in this country, who drew the attention of the Medical World to the consideration of the principal causes productive of the various forms of Inflammation. He thinks they may be referred to the following heads:

1st.—The cause exciting the Inflammation.

2d.—The function, or use in the Animal Economy, of the part inflamed.

3d.—The natural texture, or structure, of a part.

4th.—That texture, or structure, of a part which is not natural to it, but is the consequence of some previous disease.

When Dr. Smyth wrote his Essay, (1788,) the classification of the tissues which enter into the composition of the different organs, was a new attempt. Pinel was the first systematic writer who made an arrangement of the Organic Solids, according to the varieties observable in the structure of their component parts. Upon this system he founded several orders of diseases, but particularly of Inflammations. Bichat, in his great work, "Traité de l' Anatomie generale," availed himself of this idea, and applied it to all the solid parts of animal bodies. Dupuytren and Richerand improved upon the classification of Bichat.

* Medical Communications, vol. 2, p. 168.

This new way of studying the Anatomy of the Human Body, in proportion as it became generally known and practised, had a tendency to effect, and, indeed, has effected a material change in our Pathological views and reasonings.

In the prosecution of Morbid Anatomy, the Physician no longer rests contented with ascertaining merely the organ diseased, and the general changes which have been induced in it: but knowing the nature and appearance, in a healthy state, of the tissues which enter into its composition, he proceeds to a more minute investigation of its parts; and accurately distinguishing between healthy and morbid appearances, between original and superadded structure, he ascertains in what tissue of the affected organ the disease has chiefly expended its force, tracing the progress of the malady, as it were, by the vestiges it leaves. This judicious mode of inquiry has produced great changes, both in Nosology and Practice.

The experienced Physician looks beyond the mere assemblage of Symptoms, both for the name and the nature of the disease. The Symptoms are signs speaking a language which is daily becoming more and more intelligible: and the more actively the Study of Symptoms and Morbid Anatomy are made to co-operate, the more closely they are linked together in our researches, the more rapidly will the Art of Medicine be advanced, and its proverbial uncertainty diminished.

If Signs of Inflammation have been occasionally found upon surfaces, or in organs after the death of the Patient, during whose life the existence of Inflammatory Action was not inferred from the assemblage of Symptoms; we are here compelled to acknowledge the imperfection of our Art; but, as the first step to improvement is a clear perception of our ignorance, we are indebted to Morbid Anatomy for many salutary admonitions, which, at the same time that they humble our pride, ought to stimulate our industry.

Now it appears to me, that Inflammation in the living body, can only pass undiscovered by the Physician from one or more of the following causes:

1st.—The peculiar modification of the Symptoms of Inflammation, by the organ or tissue of the organ affected, may not have been previously ascertained.

2d.—The Degrees of Inflammation of which a part is susceptible, may be unknown.

3d.—The Extent of Inflammation capable of producing obvious disturbance of the function of the affected part, may be unknown.

4th.—The Sympathies of the affected part with other parts of the same organ, or with different organs, may be unknown.

5th, or lastly.—Inflammation of an organ may proceed under certain states of the Sensorium, without producing its usual disturbance of function.

This last condition is highly deserving investigation, as in it is involved the interesting question of the relation subsisting between

the Sensorial functions and the phenomena of Inflammatory action. The necessity of some Sensorial change in Inflammation, I shall presently endeavour to elucidate; but the obscuration and irregularity of the Inflammatory actions, induced by accidental states of the Brain attending them, shall first claim our attention.

Physiologists have inferred from experiments, and the consideration of Morbid Phenomena, that the ultimate Molecular movement, (whatever its nature may be,) that is the cause of sensation, takes place in the Brain, however remote the part of the Nervous system may be upon which the primary impression is made. It has also long been observed, that there are certain states of the Nervous system, in which the healthy sensations are more acute than usual; and that there are also states in which these sensations are rendered obtuse. Now, the same remarks will be found to apply to many cases of Morbid Sensation. Pain, according to the above view, can only be considered as a modification of the Molecular movement of the Sensorium, succeeding a certain impression upon Nerves; and if, in our Diagnosis of diseases, for the most part attended with pain, we look for the same degree of it in all cases, without considering the concomitant state of the Nervous system, we may be frequently led into error, and blinded to the danger of our Patient. This remark may be illustrated by a consideration of the phenomena of Inflammation, arising in the progress of continued Fever.

In every case of continued Fever, the functions of the Nervous system are more or less impaired, from the very onset of the disorder. Languor, lassitude, and unwillingness to exert muscular action; a dull weight, with or without pain, referred to the head; and inability of fixing the attention, even for a short time, to any subject, mark the first stage of Fever; and, in the progress of it, more or less somnolency alternating with states of excitement, and passing through stupor, in some instances, into protracted coma, shew unequivocally the oppressed and disturbed state of the Sensorial functions.

When we consider the mutual dependence of the Nervous and Vascular Systems, we might a priori suspect that such a state of the Nervous system, as has been above described, would be favourable to the subversion of that nice balance upon which an equable circulation of the Blood, through the different structures of the Body, depends. Congestion in one series of vessels, and increased action in others, would be the natural result of such a state of things. And, what does Morbid Anatomy prove? In the majority of fatal cases of protracted Fever, there are marks of Congestion or Inflammation found in some important organ or other; and the Intestines, particularly the sigmoid flexure of the Colon, and the Cœcum, are often found seriously disorganised. Does not mischief of this kind often pass unsuspected in Fever? We find many good practical writers talk of the *insidious* progress of Inflammation in analogous cases; of Inflammation

making *masked* attacks; and of Inflammation becoming suddenly *unmasked*, and unexpectedly proving fatal: figures of speech which express the fact, but do not explain it.

In the cases of external Inflammation, falling within the province of the Surgeon, he has advantages in forming his Diagnosis not enjoyed by the Physician in cases of internal Inflammation; for, if we take the leading points in the definition of Inflammation, redness, heat, tumour, pain, and impaired function, it is obvious that, in the case of a concealed viscus in an inflamed state, the two last alone must be the chief guides of the Physician; besides, certain consecutive actions impairing function often do not occur, unless acute pain or uneasiness be first perceived by the Patient.

The Dyspnœa attending Pleuritis will be very slight if the pain be obscurely felt. It has fallen to my lot to see, in more than one case, extensive Inflammation of the Pleura, as indicated by appearances after death, in which the Patients lay in a state of stupor or coma, attended with the worst symptoms of continued Fever. When occasionally roused, they moaned as if in pain, but did not complain of it; and there was not present any urgent Cough or permanent Dyspnœa.

The following case is one in which the ordinary developement of symptoms was counteracted by the co-existent state of the Brain.

A man fell from a high bank, and some earth fell upon him. He lay in a state of incomplete coma for the first 48 hours after the accident. He answered questions intelligibly, when roused, but never complained of pain, and breathed slowly and without cough to the last. He survived the accident 75 hours. Upon examining the body after death, the Sternum was found fractured into three pieces; the fourth, fifth, and sixth Ribs, on the right side, were fractured, and the broken end of the fifth Rib was forced through the Pleura Costalis. A layer of extravasated Blood was found between the Dura and Pia Mater of the Brain.

Dr. Ferriar, in his Essay on the Conversion of Diseases, page 60, narrates the following case.

"S. S. a boy three years of age, was seized with a Fever, then Epidemic, on the 10th of September, 1794. I saw him three weeks afterwards. With the common febrile symptoms, he had a considerable degree of Anasarca, which affected more especially his face and lower extremities. He had no cough, no difficulty of breathing, nor pain in his breast; and I could not find, from the most careful inquiry, that he had ever made such complaints. There was a great paleness over the whole skin. He was *torpid*, without delirium, or those symptoms of oppression which are common to Typhus. About the 11th of October, he complained of pain in the lower part of the Abdomen. On the 12th, violent Palpitations of the Heart, and of the Arteries of the Neck supervened, and he died on the 13th.

"Upon opening the body, we found Water effused under the Dura Mater, and the Pia Mater was distended with Water. The Blood-vessels of the Brain appeared full, but there was no other morbid appearance in the Head. In the Abdomen, the Liver was unusually large, but otherwise sound; the Gall-bladder was much distended; the Kidneys were enlarged, but not diseased; and there was rather more fluid than usual in the cavity of the Peritoneum. In the Thorax there was great disease. The Pleura adhered strongly to the Ribs, all around; and, on the right side, was inseparably united to the part covering the Lungs. There was an inflammatory exsudation over the whole surface of the Pleura. A small quantity of fluid was effused on the left side. The Pericardium was filled with Water. The Heart was sound, but the left Auricle was very small and shrivelled. The right Auricle was somewhat larger than usual.

"In this case, an active Inflammation through the whole extent of the Pleura, producing exsudation and adhesions, was not indicated by any symptom during the continuance of the complaint;" but then, there was Torpor during the life-time of the Patient, and Hydrocephalus was discovered after death.

If Fever become protracted, it is our bounden duty to be upon the sharp look-out for Visceral or Membranous Inflammation; and, from what has been said, it is clear that we must, in many cases, infer its existence, and act with corresponding promptitude, vigour, and decision, upon the appearance of symptoms much more equivocal than those which would attend it in other states of the Sensorium.

Patients, in the progress of continued Fevsr, often lie in a state of apparent sleep, from which they may be roused for a short time, to answer interrogatories, but into which they speedily relapse, when left quiet. If a Patient, in this state, moan much, and if his moaning increase upon his being moved in bed, you may suspect local mischief is going on, although, in answer to your questions, he may tell you that he feels no pain.

The contents of the Abdomen, from the soft and yielding nature of their parietes, are easily investigated by pressure; and if the countenance of the Patient be watched with due sagacity, in nine cases in ten he will *flinch* when the affected organ is compressed.

Occasional examinations of this kind should never be omitted in the course of protracted Fever.

That the distinctness and regularity of the symptoms of Inflammation will be found to bear a relation to the healthiness of the Brain, I think there can be little reason to doubt. I shall now, therefore, proceed to the consideration of the connexion which subsists between the functions of *unoppressed Brain*, and the *ordinary symptoms of Inflammation*. It is a remarkable fact, that till very lately, the co-operation of the Nervous system, with the local actions of Inflammation, was, for the most part, overlooked.

It is established beyond all doubt, that Sensation has its seat in the Sensorium Commune only; and that the Nerves merely convey impressions to the Sensorium, and a motive impulse from the Sensorium to the parts to which they are distributed.

If this be true, it is unphilosophical in the extreme to reason upon a succession of actions, in all ordinary cases accompanied by sensation, and to leave out of view the important part which the Brain acts in the course of these phenomena.

There is, perhaps, nothing more difficult than to divest our minds of the meaning attached by custom to words in ordinary discourse; although discoveries as clear as they are important, may have long shewn the fallacy of the notions attached to them in their customary acceptation.

The Natural Philosopher is compelled to disuse the word "*cold*" in reasoning on the phenomena of "*heat;*" as it would lead him to most erroneous conclusions, were he to employ a term, which, in ordinary discourse, expresses a positive agent, when he means to imply merely the negation or abstraction of a principle.

For reasons nearly analogous, he finds he must discontinue the use of the term "*heat*," in similar disquisitions, and substitute a less familiar word in its place; as the term "*heat*," in ordinary discourse, is subject to the ambiguity of signifying at one time a sensation, and at another the unknown principle which excites it. To apply these remarks to the subject of sensorial action, as associated with the phenomena of Inflammation, let us consider the following proposition, and we shall find that it is entirely owing to the language in which it is couched, that it fails to indicate one of the most important facts connected with the subject.

"Parts take on Inflammatory action upon the application of the exciting causes, with a readiness proportioned to their sensibility." Here it is obvious that the mind of the reader not divesting itself of the ordinary belief of sensation actually occurring in the part to which the exciting cause is applied, loses sight of a fact, which, if clearly expressed, would have great influence upon his future reasonings on the subject.

The proposition should strictly be stated thus:

"The more readily sensorial action follows impressions made upon parts, the more readily will Inflammation be produced in them, upon the application of its exciting causes."

The term pain ought to be employed in Pathology, as a generic term, including all uneasy sensations referred to a part. Nerves must be considered as simply impressible. When a part is stimulated by the application of any irritant, mechanical or chemical, the sensorial action follows, and the effect produced by it is slight or severe, according to the nature of the stimulus, the mode of its application, or the state of the Sensorium.

It seems probable that the catenated actions which succeed, and which, in their progress, constitute the different grades of Inflammation, are reflex sensorial actions; or the result of a motive impulse, conveyed by the Nerves from the Sensorium, to the part affected, or its vicinity.

The two extremes of the Arterial system, the Heart and the Capillaries, agree in the following particulars.

They are both endowed with a contractility which acts independently of the Sensorium, upon the application of stimuli; but they may both be powerfully affected by sensorial action.

The action of the Heart is modified even in health, by every mental emotion; and anger, shame, and other passions, display, beyond all doubt, as marked an influence on the Capillaries.

A temporary change then, in the state of the Brain itself, follows the application of a stimulus to a part, which is followed by a reflex motive impulse conveyed by the Nerves. This impulse is not confined to the point upon which the impression has been made, but is communicated to the Arteries surrounding it, increasing the afflux of Blood to them, and by injecting and distending with red globules, minute capillary branches, which before contained only transparent and colourless Serum, either renders them distinctly visible, or, where they are numerous and crowded, produces a diffused redness or blush of greater or less extent.

Thus, simple determination of Blood, as it has been called, is effected by increasing the quantity contained in a certain set of vessels.—"Ubi irritatio ibi fluxus."

Experiment.—With the point of a needle, gently scratch or prick the back part of the wrist or hand, two or three times, until a slight smarting sensation be produced; in a few seconds a blush will be observed, (not commencing at the stimulated part, and gradually spreading from it,) but commencing in several distinct points for some distance round it at the same time, and progressively blending into one blush. These phenomena are easily observed by the naked eye, but, with the assistance of a magnifying glass of slight power, the demonstration is more conclusive and satisfactory.

This view of the part the Sensorium takes in establishing local determinations in the neighbourhood of a stimulated point, affords the only explanation of the apparently arbitrary manner in which Inflammation is occasionally fixed upon seats to which no cognizable stimulus has been previously applied. The same sensorial change which is produced by the application of a stimulus to any remote part, would, if it should occur independently of the application of such a stimulus, have a tendency to communicate the same motive impulse to the vessels in the neighbourhood of the part, as if a stimulus had been there applied.

That local determinations can take place from sensorial changes only, is proved from the phenomenon of blushing as the consequence of mental emotion.

There is a term employed by Medical writers, which, in my opinion, is indicative merely of increased impressibility of the Nervous system—*Mobility.*

Individuals of delicate structure, or who have been debilitated by dissipation, disease, study, sedentary habits, the puerperal

state, or other causes, have this *Mobility*, and are, therefore, hourly subject to some new combination of symptoms, till the Constitution be invigorated, and the Mobility consequently lessened. One of the most marked symptoms attending this state of the habit, is a disposition to irregular flushings; the surface of the body becomes suddenly heated in patches, shifting their seat so rapidly and uncertainly, that, while the Patient is complaining of the flushing in one part, it will leave it and attack another. In this state of the system, the most trifling causes will excite inflammatory action in a part; and if the Mobility, prior to the attack, has been strongly marked, the Physician is seldom called upon to afford his assistance under circumstances more unfavourable; for the readiness with which the Sensorial changes take place, causes an incessant migration of the Inflammatory action from one surface or region to another. Children, after severe attacks of Fever, and Women in the Puerperal state, frequently exhibit this deplorable disposition to shifting Inflammation; and, in these cases, the very depletions we use to combat the Inflammation, by augmenting the Mobility, increase the tendency of the Inflammation to attack different parts in succession. It is upon this principle that, in acute Rheumatism, if large general bleedings be used at the beginning of the disorder, the Inflammatory action shifts more suddenly, and frequently from joint to joint, and even to internal organs, in the progress of the disease, than in those cases where the bleeding has been less profuse.

The determination of the seat of Inflammations, arising from what are termed Specific Contagions, most probably depends, in like manner, upon the nature of the previous sensorial change. It would be difficult, otherwise, to account for the diversity of their seat and character corresponding in every instance with the nature of the Specific Contagion; although the premonitory constitutional symptoms so closely resemble each other in the different kinds of contagious Fevers, that the most experienced Physician is often unable to state before-hand what the disease will prove. From what has been stated, I conclude that a change in the state of the Sensorium, is directly or indirectly the cause of that increased determination of Blood to a part, without which, Inflammation cannot commence.

The determination being established, let us consider next, what must be the effect of its continuance upon the minute ramifications of the Capillary Vessels of the part. We have seen that their Calibre is enlarged; that they now admit the colouring matter of the Blood to which they previously denied transmission. The blush of Inflammation is produced by this distension of the Capillaries gradually increasing up to a certain point. The question here occurs, what must be the effect of this distension upon the vessels themselves? All analogy is in favour of the answer, to impair their contractility. Are not the Heart and the Capillaries, strictly speaking, contractile, containing cavities exerting

an expulsive power upon their contents? What is the effect of long-continued over-distension on the cavities of the Heart itself? Do they not contract more and more feebly, as the distension increases, until the muscular fibres become extenuated, and passive aneurism established? If the Urine be retained an unusual length of time in the Bladder, the contractile power of the organ is impaired; and, in some cases, it is not only unequal at the time to the expulsion of its contents, but after these have been removed by art, it permits them again and again to accumulate, and its expulsive power is only gradually restored. The Blood, then, in the capillaries of an inflamed part, is retarded, and dependent for its progression much more upon the impulse of Blood from behind, than upon the contractile power of the vessels that contain it. In accordance with our views, the force from behind is augmented after the following manner. The enlarged Capillaries mechanically impress the extreme Nerves of the inflamed part, Sensorial action necessarily follows, and a reflex motive impulse to the vessels supplying the part is produced; and thus, if the circulation in the Capillaries be not speedily restored to a healthy state, a mutual reaction between the part and the Sensorium will be established, and may proceed to the extent of increasing the action of the Heart itself, and consequently of the whole Arterial system.

The healthy circulation in the inflamed part, may be restored in one of two ways; either by a gradual subsidence of the Sensorial action that keeps up the determination to the part, or by the contractility of the distended Capillaries becoming equal to the expulsion of their contents; or both of these means may co-operate.

Art often assists nature in both these curative processes; her means being general Atonics and Sedatives for the former, and Topical Stimuli for the latter.

When Inflammation subsides thus, it is technically said to end in *resolution*.

The bulk of an inflamed part is increased in two ways; by the enlargement of vessels above described, and by more or less interstitial effusion of Serum, which, when the disease terminates by resolution, is speedily re-absorbed. The extravasation of Serum is one of the modes by which the over-distension of the Arteries is diminished, and the restoration of their contractility facilitated. It is sometimes effused into Cavities, and under the Cuticle, when the surface of the Skin is inflamed. This sometimes puts an end to the disease.

A third mode of its termination is by the extravasation of Fibrine as well as Serum. The Fibrine is either re-absorbed, or is organised by gradually consolidating, and receiving new vessels from the parts with which it lies in contact. All Membranes superadded to the original structure, and often found connecting parts which are naturally disjoined, are thus formed.

A fourth mode of its termination, is by the secretion of an opaque, bland, white fluid, resembling the Blood in containing Globules. This fluid is called *pus*, and is preceded by the formation of a temporary papillary structure in the part.

The impulse of Blood in the exhalant arteries of an inflamed surface, is sometimes so great as to cause Hæmorrhage from the part, without loss of substance; and this occasionally arrests the Inflammation. It is by no means uncommon for small quantities of Blood to be poured out in mixture with the secretion of an inflamed surface, be it pus, mucus, or serum.

Suppuration occurs either with a loss of substance in the inflamed part or without it. This loss is produced by ulcerative absorption, which is another mode in which Inflammation terminates. It is generally attended with the secretion of pus, whether the ulcerative process produce an open sore, or a close cavity. The latter is called an Abcess, and usually occurs when the common Cellular Membrane of the part is the seat of the Inflammation. Inflammation terminates sometimes in the death of the vessels of the part, and consequent demolition of its structure. This may occur simply, or be complicated with some of the other modes of termination.

Inflammatory action is either *acute* or *chronic*. These Inflammations are reciprocally convertible. The great difference between Acute and Chronic Inflammation, appears to consist in the slightness of the sensorial change produced in the latter, and the local determinations being therefore established with less impetus: for the motive impulse bears always a relation to the previous sensorial change; and the latter, in Chronic Inflammation, may be inferred to be neither sudden nor great; for the pain referred to the part affected is gradual in its approach, and often so moderate as to escape attention for some time.

The tardy progress of Chronic Inflammation permits a succession of vascular actions in the seat of the disease, modifying the nutrient secretion of the part, and this often to a degree that obliterates its original structure, and entirely destroys its healthy functions.

Sensorial action follows impressions made upon parts in a state of Acute or Chronic Inflammation, much more readily than it follows impressions made upon parts altogether free from Inflammation. This constitutes the morbid sensibility, or, as it is usually called, the tenderness of the part. Chronic Inflammation is often suddenly changed to acute, from accidental impressions made upon the seat of disease.

When acute Inflammation supervenes upon Chronic Inflammation of the same tissue, the prognosis is unfavourable. The rapidity with which the disease often spreads, under these circumstances, and the violence of the actions which take place, scarcely allow time for the operation of remedies; and depletions, however largely employed, seem to exert little control over the disease. There appear to be grades between the most acute

form of Inflammation, and the most chronic: in other words, the actions may vary in intensity between these two points.

Many kinds of Inflammation may be traced to a morbid state of the fluids; but the seat of the Inflammation will be determined by the nature of the sensorial change produced by the state of the fluids. The intensity of the Inflammation will be proportional to the force of the impression on the Sensorium, and of the subsequent cerebral re-action.

It is only in this way that we can explain the fact of certain substances, when introduced directly into the Blood, still exerting their peculiar energies on specific seats; for instance—It has been found, by repeated experiments, that when Acetate of Lead is injected into the Veins of Dogs, symptoms analogous to the Painters' Cholic are induced, and the Intestines of the animals, on dissection, are found to be inflamed.*

It is now generally admitted that some general depravation of the Fluids precedes the first attack of the Gout; and yet, how uniform is the seat of its attack!

It follows, from what has been said, that the primary cause of local Inflammations may be seated in the Brain itself. Of this we cannot fail to be convinced, when we see Acute Inflammation and Abcess of the Liver, follow blows upon the Head, or exposure of the latter to the vertical rays of the Sun.

All depraved sensations will not be followed by Local Inflammations; but the occurrence of Local Inflammations often depends upon sensorial changes analogous to those which make the wretched Hypochondriack complain of suffering successively in almost every part of his frame.

Inflammation will, in general, be found to spread most readily in a direction determined by the relation of the adjacent parts to the Sensorium. Sensorial action more readily follows impressions made upon superficial, than those made upon deeply-seated parts. These parts are, therefore, more easily inflamed. From this cause, Inflammation spreads slowly from surfaces to deeper seated parts, but more rapidly from deeper seated parts to surfaces.

A foreign body may be deeply imbedded in the substance of a part for years, without exciting Inflammatory Action; but if it be lodged near an investing membrane, Pain and Inflammation soon ensue.

In consequence of this law, Abcesses have an uniform tendency to make their way to the nearest free surface; Inflammation and Ulcerative Absorption proceeding faster in that direction than in any other.

* See Gaspard's Physiological Memoir on Purulent and Putrid Diseases.

ARTICLE III.

Some Observations on the Coal District of Worcestershire, and on the Botanical and other Peculiarities of the Malvern Hills.

BY J. K. WALKER, M. D. HUDDERSFIELD.

In making the following cursory observations on the Botanical and other peculiarities of the Malvern Hills, elicited during a casual sojourn amidst their lovely scenery, permit me to offer you my cordial congratulations on the establishment of your useful Periodical, by the Profession of Worcestershire, which has been the first to set so laudable an example to the Provincial Towns of the Island. And sure I am, that if any inference is to be drawn from the ability of its conductors, it can hardly fail of meeting with that support it so eminently deserves. Some of the observations I am about to offer, furnish matter of enquiry rather than information, especially on the subject of Natural History, in which your interesting County presents so wide a field; and I was the more prompted to take this course, by certain points of similarity, which I thought I perceived between the West Riding of Yorkshire, and some parts of Worcestershire.

This resemblance, indeed, presents itself on first entering the northern part of Worcestershire, where the numerous Iron and Glass Manufactories, the towering chimnies, which elevate their summits on every side,

> "Whose Stygian throats breathe darkness all day long:"

and the presence of Coal Strata have impressed a peculiar character on the district. It is important to know, from some of your Professional Correspondents in that quarter, whether the health of the numerous population employed either in Mining, or in the Manufactories, has been affected from these causes, and to what diseases they are most liable. In the Factories of the West Riding of Yorkshire, such is the philanthropy of the proprietors, and such the provision for ventilation and cleanliness, that it is doubtful if you can find an equally large mass of population working at home, with fewer cases of Sickness. Out of 600 Patients admitted at the Huddersfield Dispensary, only 25 had worked in the Factories; and out of 135 cases received at the House of Recovery in Leeds, during six months, only 7 were from the Factories. Nor is there reason to believe that any material accession of Sickness arises from this cause in the surrounding population. Indeed, the great height of the chimnies, and the prevalent high winds, contribute to waft away much of these noisome vapours.

I hope I shall stand excused, too, as a lover of Geology, if I solicit from a similar source, some account of the peculiarities of the Coal Strata, which differ from the Coal formation of the West Riding, in their proximity to Limestone; for though some of the Craven Hills, whose tops are crowned with Coal Strata, rest on a Limestone basis, yet, in the principal part of this Riding, the Coal pervades a *stratification of Sandstone*.

Your last number adverted to the singular Organic Remains found in the Dudley Mines. From the stupendous excavation and tunnels perforating the Rocks of Limestone in that district, there is ample field for future discovery; for it is in such juxtaposition of Coal and Limestone, that the Geologist looks for his choicest specimens.

In the Coal Strata of the West Riding, the Shells and Corals so abundant in Limestone, are absent; and in their place we find Vegetable Remains, though, to this indeed, exceptions occasionally occur. It is impossible not to admire the uniformity of arrangement discernible in these animal and vegetable Organic Remains. You do not find the same species of Fossils in different formations, but each formation contains an association of species peculiar to itself. It is this difference between silicious and calcareous Rocks, that renders any comparative account of the Organic remains of each so interesting. In the silicious stratifications of the West Riding, I have found specimens almost of all sizes, resembling Petrified Trunks and Branches, some marked with impressions of the Cortical parts of Trees, especially of the coniferous kind. Some appear to be ribbed or sulcated, longitudinally; others geniculated like oriental bamboos. A very large proportion, however, are found with Tubercular prominences, or depressions, from which Setæ or Germs may be supposed to have proceeded. The arrangement of these Tubercles is in exact quincuncial order, and at a distance corresponding to the diameter of the trunk. The following are the species which I have found in this district.

The Phytolithus Verrucosus of Martin,
——————— Sulciculmis,
——————— Cancellatus,
——————— Parmatus,
——————— Imbricatus,
——————— Tesselatus.

There are other peculiarities in the Organic Remains of our Coal Strata, not unworthy of mention in this place, which, if acceptable to your readers, I shall be happy to submit at some future period. At present, I shall proceed to the more immediate object of this paper, and call your attention to the beauteous productions of nature, which adorn the surface, rather than those that lie hid in the bowels of the earth. In describing the Flora of a mountainous district, it is proper to observe the power of elevation over the vegetable kingdom. The Malvern Hills, in point of elevation, bear no comparison with the Mountains of the west and north eastern parts of Yorkshire. The range of Hills called the Lickey, perhaps, approach the nearest of the Worcestershire Hills, in altitude and vegetation; many Alpine Plants still growing on their summits, though their number is less since it has been enclosed.—Assuming the highest point of the Malvern Hills to be 1444 feet, (which, in fact, exceeds Mr. Horner's estimate,) it will be seen that their elevation is far below that of the

Yorkshire Apennines. In that portion of the immense Chain of Hills, (sometimes called the Backbone of England,) passing through Yorkshire, there are some elevations unparalleled, I believe, either in England or Wales; Whernside for instance, which is 4052 feet high. The difference between this, and the above quoted elevation of the Malvern Hills, amounts to about 869 yards, which, allowing 60 yards of altitude to be equal to a degree of latitude, would give to the summit of Whernside the same effect, as if it were removed more than 14 degrees north of Malvern, even if they lay contiguous to each other. I thought it right to mention this, to shew that altitude alone is sufficient to account for any difference in the vegetation, though there are other causes co-operating to produce this variety; such as soil, quantity of rain, prevailing winds, &c. &c. A correspondent in your last number, states the annual average fall of Rain about Worcester, to be 27 inches; in the vicinity of the Craven Hills, it is 48 inches; at Sheffield, about 33 inches; at Huddersfield, 34 inches; and the general average throughout England, is 28 inches. What the annual proportion of Rain is that falls on the Malvern Range, I have not ascertained. Indeed, I much regret to find that no Meteorological Register has been kept in the neighbourhood of the Malvern Hills, a desideratum, I am happy to find, now likely to be supplied by the exertions of the Conductors of your Reporter. For want of this, distant Practitioners felt themselves not a little at a loss to give proper directions to the Patients, whom they recommended to the salubrious air of these romantic Hills. To those Invalids whom choice, or perhaps necessity, has induced to spend the winter here, it is of the last importance to know the proper situation to choose, after leaving the declivities of the Hill. This is more especially requisite in the early months of the year, when the east and north-east winds prevail.

It is certain, that on the eastern side of these Hills, Vegetation is much earlier than on the opposite side, as it often happens that the harvest is completed on the former, ere it is commenced on the latter. Your last number alluded to the great contrast between the two sides of these Hills, the Granitic feature of the eastern,* and the Calcareo-silicious Stratification of the western aspect. To this cause must be ascribed the discrepancy between the Chemical contents of the Springs of each side, the purity of the one, and the selenitic impregnation of the other. The Soil,

* Out of upwards of 50 different specimens of the Malvern Granite, collected indiscriminately at different parts of the Hills, I found 20 of them what I should call a sort of *Ribbon Granite*, Red Granite, or Felspar and Quartz, forming a stripe in Hornblende; 10 of them a Red Granite, with small particles of Mica and Quartz; 12 without any Mica, but small spots of reddish Felspar, interspersed with Hornblende; 8 of a brown colour, and, to the naked eye, of a homogeneous appearance. I have also succeeded in collecting some Petrifactions in the neighbouring Lime Quarries, but not of sufficient interest to communicate.

too, of each, is dissimilar, that of the west side being chiefly composed of a stiff Clay, with a substratum of Limestone; while that on the eastern, is principally Gravel, to the banks of the Severn. The great advantage of the Malvern Hills is, that they *are high enough to ward off the west Winds, and not so high as materially to attract or condense* the Clouds passing over them. A greater Height might have added to the sublimity of the scenery, but at the risk of subjecting the Inhabitants to an excess of rain, as is too often the case in the neighbourhood of the Yorkshire Alps, where that lofty range of Hills has inscribed a wet and stormy character on the district. It will be obvious, too, from this minor elevation of the Malvern Range, that the Class of Alpine Plants, so frequent on the Yorkshire Mountains, will not be found here, where a luxuriant vegetation crowns the very summits. It has never occurred to me to find on the Malvern Hills such plants as the Chamæmorus, Trientalis Europæa, Melica Montana, Polytrichum Alpinum, Empetrum Procumbens, Andromeda Polifiolia, or even the Vaccinium, though some detached portions of the Erica Vulgaris appear on the sides of the Camp Hill. Many pretty varieties of the Polygala Vulgaris, so common on the Northern Moors, were yet in flower in the month of July; but you no where descry such plants as the Narthecium Ossifragum, Aira Flexuosa, Eriophorum, and the tribe of plants usually growing on barren heaths. Whatever may have been the case in its uncultivated state, a more luxuriant vegetation now occupies the soil.

It is no part of my object to attempt a complete Catalogue of the Plants growing on the Malvern Hills. It is evident that a complete Flora of any district, can only be the work of a resident Botanist, who has it in his power to inspect each plant as it successively presents itself in a state of inflorescence, and I hope that the period is not far distant, when, by the aid of your Reporter, the public will be put in possession of such a desideratum. In the few days it has been my lot to ramble among these lovely mountains, I have enriched my Herbarium with many rare specimens, which it will be my delight to look upon hereafter, as so many trophies and memorials of your delightful county. Your last number enumerates some of the rarer Plants growing here, to which I beg to add the following list, according to the Specimens now lying before me. They were all collected within three or four miles of the Holywell.

Veronica serpyllifolia,
——— Beccabunga,
——— anagallis,
——— Chamædrys,
Scabiosa succisa,
——— arvensis,
Galium verum,
Thymus serpyllum,
Verbascum th.
Fumaria claviculata,
Cynoglossum officinale,
Digitalis purpurea,
Sedum album,
Spergula arvensis,
Reseda luteola,
Euphorbia peplus,
Cotyledon umbilic.
Agrimonia Eupatoria,
Spiræa ulmaria,
Geum urbanum,
Chelidonium majus,
Papaver,
Glecoma hederacea,
Teucrium scorodonia,
Polygala vulgaris,
Lathyrus pratensis,
Vicia cracca,
—— sativa,
—— sepium,
Lotus corniculatus,
Hypericum perforatum,
——— humifusum,
——— montanum,
——— pulchrum,
——— hirsutum,
Gnaphalium luteo-album,

Sanguisorba officinalis,	Galeopsis ladanum,	Solidago virg. aurea,
Myosotis,	Betonica officinalis,	Pyrethrum parthen.
Anagallis arvensis,	Marrubuim vulgare,	Achillea millefolium,
Campanula patula,	Euphrasia officinalis,	Humulus lupu,
——— Rotundifolia,	Antirrhinum Lin.	Tamus communis,
Chironia Centaurium,	Scrophularia nodosa,	Chlora perfoliata,
Silene inflata,	Geranium Robertianum,	Cistus helianthemum,
Arenaria rubra,	——— pusillum,	Verbena officinalis,
Oxalis acetosella,	Malva rotundifolia,	Rhinanthus,
Lychnis flos-cuculi,	——— moschata,	Senecio, (2 species.)

The Professional Wanderer among these delightful Mountains, cannot fail to remark the number of Medicinal Herbs, which are not less useful in their virtues, than ornamental in their appearance. The Colchicum Autumnale, the Digitalis, the Verbascum, Hyoscyamus Niger, Chironia Centaurium, Agrimonia Eupatoria, Marrubium Vulgare, Genista, Chelidonium, Geum Urbanum, Glecoma Hederacea, (the two last of which grow near the Holywell, and used to form the "Thea antiphthisica" of the older authors,) and the Humulus, with some others of less note, are all to be gathered within a short distance of Little Malvern.

Time alone prevented me from extending my researches to the Cryptogamic Botany of this district, which I am convinced is rich in specimens both of Filices and Musci, as any one may convince himself on viewing the sides of these Hills, and the many naked Scars which present a convenient nidus for Mosses of all kind.

I cannot dismiss the subject of the Floral beauties of the district, without expressing my satisfaction at the numerous tasteful Gardens, with which the industry of the poor Cottagers has every where adorned their humble dwellings. Well would it be if a practice so conducive to the health and comfort of the poor, were more generally adopted. It is, however, most wanted in Manufacturing districts, where no inconsiderable share of the maladies of the poor arise from too close confinement, and want of fresh air.

I cannot conclude these miscellaneous remarks, without adverting to the Medicinal properties of the Holywell, which have given rise to such a variety of opinions, some ascribing to them virtues which they do not possess, others denying to them any virtues at all. From not a little experience in the investigation of Mineral Springs, I am convinced, that we know too little of the action of Mineral Waters, to say in what their efficacy resides; and I am not quite sure that in the very act of analysis, some undiscovered change may not take place, that may lead to a false estimate of their virtues. It is quite certain that no synthetical composition of the supposed ingredients, will ever produce similar constitutional effects, so jealous is nature of every attempt to emulate her operations. After repeating the usual experiments on the Holywell Water, I see no reason to doubt the accuracy of Dr. Philip's analysis, in which Carbonate of Soda* is the leading ingredient.

* The silence in Chemical Treatises respecting the mode of Analysis adapted to Waters containing Carbonate of Soda, is a proof of the infrequency of this substance in Mineral Waters. In one district, however, of the West

It is well known that this substance is often administered with beneficial effect in Arthritic, Calculous, Dyspeptic, and Scrofulous cases; in short, in that class of cases which have been known to receive the greatest benefit from the use of the Holywell water. When Analytical Chemistry shall have attained a greater share of accuracy, it is possible some still more important ingredient may be detected. For my own part, judging from the colour it gives to Starch, and from some experiments with the Voltaic Pile, I cannot but suspect that the secret of its utility resides in a minute impregnation with Iodine, a circumstance which would, in some measure, account for its efficacy in Scrofulous affections; and while we daily have to lament our ignorance of the cause of the increase of Strumous disorders, as well as the inertness of our best remedies against them, we should be thankful for the smallest assistance in combating this cruel disorder, Too soon, alas! in the plenitude of its virulence, it derides all human efforts, and never quits its victim till, like a stanch murderer, it has consigned both youth and beauty to an untimely tomb.

ARTICLE IV.

On the Atropa Belladonna.

BY DR. JAMES NASH, M. D. WORCESTER.

This beautiful indigenous Plant, so extraordinary as a Medical Agent, when judiciously administered, and so deadly in its poisonous effects, when taken through ignorance; though occasionally cultivated in our Gardens, is by no means common in Britain; few natural localities of it, at least, being upon record; yet, in several of these mentioned, it is said to grow most abundantly. The adjoining counties of Gloucester and Stafford, have both their natural habitat; Lantony Abbey in the former, and Dudley Castle in the latter, are spoken of as producing the wild Plant; but no situation in Worcestershire, that I am aware of, has ever been noted for its spontaneous growth; though accounts of many of our rarest vegetable productions, with their locations, have been long before the Public.

I beg leave, therefore, to state, through the medium of your very useful Journal, that the Belladonna has grown and flourished upon an old wall, formed of broken pieces of red sand-stone and iron dross, in the village of Lincomb, in the parish of Hartlebury, ever since the recollection of the principal inhabitants; and I have no doubt of its genuine wildness. The spot seems greatly

Riding of Yorkshire, Carbonate of Soda is of frequent occurrence; it is found in the ordinary Springs; often at the same time, with substances with which, in artificial solutions, or when concentrated, it would be considered wholly incompatible. At Holbeck, and as far westward as Bradford, and at Stanley, near Wakefield, there are Alkaline Springs, with different proportions of Carbonate of Soda. There is one, also, in the township of Barkisland, in this district, of a similar nature.

to suit its growth, since it extends to the height of several feet during the Summer; dying down to the root as the Autumn advances, and leaving nothing visible but the dried branches, in Winter.

It is unnecessary for me to speak of the powerful and very eccentric Medical properties of this Plant; whether administered as an internal remedy, or applied externally, so familiar are they to every Medical Practitioner.

There is no part of the Plant but what is deeply imbued with its poisonous qualities; though the Fruit, when perfectly ripe, appears to contain it in a most eminent degree; one, or even half of one of the Berries, having been known to produce death. Modern Chemistry, among its recent discoveries, has brought to light the principle upon which the active properties of Belladonna depend. For this we are indebted to M. Brandes, of Salz-Uffeln, who, in an Analysis of the Plant, discovered a new Alkaloid, to which the term Atropia—or Atropine has been applied. The effects of Atropine upon the Animal Economy, are extremely deleterious; so much so, indeed, as to preclude all prospect, I fear, of its ever coming into use as a remedial agent in the treatment of disease. It had such an injurious effect upon the health of M. Brandes, during his researches relative to its properties, as to cause him to desist from any further experiments; and no one, I believe, has hitherto followed him.

J. N.

Worcester, Sep. 20th, 1828.

ARTICLE V.

Observations on the Medical Topography of Birmingham, and the Health of the Inhabitants.

BY JOHN DARWALL, M. D.
Physician to the Birmingham Dispensary.

My intention in the following observations, is not so much to give a complete sketch of the Medical Topography of Birmingham, as to state the effects which the modes of Building, the Manufactures, and Habits of Life, have upon the Health of the Inhabitants

The Population of Birmingham, comprehending Edgbaston, Deritend, and Ashted, may be computed at very nearly, if not quite, 120,000. The Parish of Birmingham itself is returned in the last census, at 85,000 only, but doubtless very much underrated. In order, however, to arrive at any correct conclusions respecting the mortality of the town, it is necessary to comprehend the adjoining parts of the parishes of Aston and Edgbaston, the Inhabitants of which places bury in Birmingham. The average Mortality, for the last seven years, has been 2,892, or about one in forty and a fraction. The number of registered Baptisms, (to which are to be added the Children of Dissenters, very many of whom are not registered,) are 21,630; the number

of Burials, 19,370, leaving an excess of 2,290 Baptisms over the Burials, in seven years. The excess must be somewhat greater than this, as far many more Children are Baptized by Dissenters, than are buried out of the church grounds.

The Marriages during the same period of seven years, that is from January, 1821, to December, 1827, are 6,262. The greatest number of Marriages took place in that year of speculation, 1825, when they were 1,108; the next year they fell to 812; and in 1827, to 810. This, however, is more than in either 1821 or in 1822, when they were, respectively, 785 and 788.

The Ground upon which the Town stands is principally Red Sand, and in some places, it is nearly Rock.

The Water of Birmingham is so much altered by causes within the town, such as the Manufactories and Privies, as to render it, in most instances, quite unfit for culinary purposes. The Inhabitants are hence supplied by Water-Carts from Wells in the lower part of the town. This circumstance attracted the attention of Mr. Southall, the Chemist, upon settling here, and he examined the Waters in different situations. The result was published in Aris's Gazette. From this statement, the following is an extract.

A Gallon of Water from a pump in Bull-street, contains

	GRAINS.
Muriates of Lime and Magnesia,	22
Nitrates of ditto, ditto.	32
Sulphate of Lime,	10
Muriate of Potash,	4
Nitrate of Potash,	4
Total,	72

From Bath-street.

Nitrate of Magnesia,	32
Nitrate of Lime,	8
Sulphate of Lime,	20
Nitrate of Potash,	10
Argillaceous Earth,	10
Total,	80

Pump from Carr's Lane.

Muriates of Lime and Magnesia,	36
Nitrates of ditto, ditto,	16
Sulphate of Lime,	36
Argillaceous Earth,	8
Nitrate of Potash and Muriate of Potash,	28
Total,	114

A Pump from Summer Hill, contained 20 grains of Impurities, which were about equal portions—Sulphate and Muriate of Lime.

Digbeth Water.

Argillaceous Earth,	3
Sulphate of Lime,	3½
Nitrate and Muriate of Lime,	4½
Ditto, ditto, Potash,	3
Total,	14

The Digbeth Water is that which is delivered in carts for culinary purposes.

Within the last few days, I have been favoured with the following additional information, from Mr. Southall. "At present the proportion of Nitrates in the Water in Bull-street, is less," (than in 1821, when the preceding statement was made,) "owing, no doubt, to the removal of a Privy, which formerly stood near the Well. It is still, however, quite unfit for culinary purposes. Several Springs in the Town are so strongly impregnated with Copper and Tin, as to be highly nauseous, and even, in some degree, emetic. The Springs in the outskirts of the Town, almost invariably correspond with that stated to have been examined from Summer Hill, being nearly equal parts of Muriate and Sulphate of Lime, in the proportion of about 2 to 3 grains to a pint."

The Botany of the neighbourhood round Birmingham, has been so minutely examined by Dr. Withering, who has published the results, that it seems almost superfluous to take any notice of it in a statement of this kind. The following genera, with several of the species, are common, and are generally of luxuriant growth. Chærophyllum, Myrrhis, Torilis, Daucus, Heracleum, Conium, (rare,) Angelica, Bunium, Sium, Ægopodium, Sambucus, Æthusa cynapium, Dipsacus, Scabiosa, Galium, Asperula, Sherardia, Hyacynthus, Alisma, Circæa, Polygonum, Dactylis, Holcus, Holosteum, Campanula, Verbascum, Viola, Solanum dulcamara, Anchusa, Myosotis, Symphytum, Anagallis, Lysimachia, Convolvulus, Jasione, Lonicera, Rumex, Urtica dioica, et urens, and, of course, very many others. The genera and species of a circuit of ten miles round Birmingham, are about eight hundred.

I now proceed to the considerations of those circumstances by which we may rationally suppose that the Health of the Inhabitants is more immediately affected.

Birmingham is spread over a much larger surface, than, from the number of its Inhabitants, might be supposed; the Streets are, for the most part, wide and spacious, and the Courts have, generally, large Yards. Unlike Liverpool and Manchester, excepting that part of the Town which is occupied by the Irish, it is rare to find more than one family, in one house, and I know not any situation where Cellars are occupied as dwellings. As Topographical notices of this kind are intended to throw some light upon the influence of local and other circumstances upon Disease, it may be adviseable to enter into a somewhat more minute detail of some parts of the Town, and the Disease to which, in different places, the Inhabitants seem most liable.

The Town is built upon several Hills, the oldest part extending from High-street, through Digbeth, to Deritend, being a steep declivity, at the bottom of which, the Rea takes its course, and partly divides the parishes of Aston and Birmingham. Digbeth was formerly liable to very deep floods, and few wet seasons passed away without their occurrence; but this has been obvi-

ated for some years, by the erection of bridges, and the raising and strengthening of the banks. This street was, at the same time, exceedingly narrow and confined, and the Bull-ring and High-street were choked up with the Shambles. All these inconveniences have, however, been remedied; the entrance into the Town, on this side, is now much widened; the Shambles are removed, and the space upon which they stood, is open and unoccupied; what effect these improvements may have wrought upon the Health of the Inhabitants of this part, there are no data for ascertaining. Fever, however, which would probably be excited by the confined state of the Streets above detailed, is rarely met with.

Deritend, which is as old, or perhaps older than the parts of Birmingham immediately adjoining, is the lowest and dampest portion of the district now under our consideration. The main Streets, as in Birmingham, are wide and airy, but the Courts issuing from them, are, on the whole, far more confined. That part of the Hamlet which is situated upon the Bank of the Rea, is more liable to Fever than any other part of the Town, where the Inhabitants are permanent, and even common Catarrhs will frequently degenerate into low Fever. Of the peculiar nature of this disease, and the best mode of treating it, I shall speak more at length hereafter. Damp and close as Deritend is, and, of course, more subject to thick Fogs than higher situations, Ague is very rarely met with. It seldom, indeed, occurs in this district, and, judging from my own experience, I should say that the cases which do occur, are always of foreign origin. Within the last few weeks, I have seen one decided instance of this malady, in an individual who had been, three months ago, amidst the Fens of Lincolnshire.

Leaving Deritend, the only parts of the Town which, from their peculiarity, appear deserving of notice, are Dudley-street and its neighbourhood, which is principally occupied by Jews; and the neighbourhood of Thomas-street, John-street, London Prentice, etc. where the low Irish congregate. Both these districts are close, though the former has undergone some improvement, and, at this time, some of the worst buildings are being removed. Dudley-street district does not appear particularly liable to any disease, but when the Inhabitants are attacked, there is great tendency to Debility. The same observation cannot, however, be made of the latter neighbourhood, for here Fever prevails to a greater extent than elsewhere, and the Fever Wards of the Town Infirmary are mostly supplied from these Streets. Two causes seem to account for this; the one is the crowded state of the Lodging Houses, and the other is the meagre Diet to which the Irish labourers submit. Few things, indeed, can be more striking to accurate observers, than the comparatively rare occurrence of Febrile Disorders among the Manufacturing Poor, and the readiness with which, when they do occur, they are removed. It seems impossible, when comparing this

immunity with the liability of the Irish, not to refer very much to their better living.

In considering the habits of the poorer Inhabitants of Birmingham in the aggregate, it is impossible to speak otherwise of them than in terms of praise. In so large a population, many cases of gross profligacy must occur, much vice, and its certain attendant, misery. But such instances are to be regarded as exceptions, for generally they are provident and moral.

Of their providence, no more striking proof can be given than the numerous Clubs* that exist throughout the Town, for though it may well be questioned whether, under their present constitution, more evil results not from them, than good; the disposition to which they are owing, is certainly praiseworthy. An extensive acquaintance among the poor of this populous district, may, perhaps, be admitted as some excuse for entering a little into the nature of these Institutions, and the distress which, in many instances, they occasion.

The Plan upon which they are formed, appears, almost without exception, to have the benefit of the Publicans in view, rather than of the Poor who are members. Every Public House has one or more of these Clubs, at which the members assemble and pay their contributions. From one-fifth to one-eighth is invariably laid out in liquor. Supposing, for instance, fifteen pence is the sum paid every fortnight, three pence of this goes to the publican, and a shilling only to the accumulating fund. The first and manifest evil, is the inducement to frequent the Public House at all, and those who have paid much attention to the Poor, must consider this an evil of very great magnitude. It is often the introduction to a life of drunkenness and profligacy. But another evil, and from which no good conduct in the individuals can rescue them, is the necessary tendency it has to confine each Club to a small number of persons, and the consequent impossibility of obtaining such a Fund as may secure to the Members the benefits promised. It does not appear that, in the majority of these Establishments, any calculations are ever made, but the sum is fixed arbitrarily, according to what it may be supposed the payers can afford. Hence, continual failures are occurring, and, generally speaking, the greatest sufferers are those who have been the most provident; those who, having lived the most steadily, have paid the longest. Many instances have fallen under my notice, where individuals, having contributed regularly for thirty or forty years, have, at last, lost all the fruits of their economy, the Club being broken up, either from fraud or from necessity. The former cases are, however, not so frequent as the latter.

It may readily be supposed that where there is a general tendency to habits of providence, the evils of absolute poverty are

* It is said that there are upwards of 800 of these Clubs in the Town. This is, of course, in great measure, conjectural, but from what has fallen under my own notice, I should think it rather under than over the truth.

comparatively seldom experienced; such is, in fact, the case with the lower Inhabitants of this populous Manufacturing Town. Their Houses are well furnished, and have many little articles of luxury; few above the very lowest are without clocks in their dwellings; their bedsteads are provided with hangings, and there is an appearance of comfort, and, I might almost say, of affluence, in the majority of their habitations. Nor, in thus providing the decent luxuries of life, do they deprive themselves of necessaries. Their Diet comprehends some Meat every day, and the better class of mechanics, not unfrequently indulge in the delicacies of the table, at a time when their employers feel scarcely justified in purchasing them. Their beverage is Beer or Ale; Spirits have not, hitherto, been much consumed by the Manufacturing Classes, though it is to be feared that the late reduction in the duties, may cause them to be substituted, in some degree, for malt liquor. It is plain that enjoyments like these, are inconsistent with great and overwhelming viciousness.

What has hitherto been stated, refers entirely to the permanent Population of the Town. In addition to this, however, there is a large class of Irish, who are said to be seldom less than 5,000 in number, but who are perpetually changing. It is with these that Fever mostly prevails, and their habits, morals, and condition, are very far inferior to those of the native artizans. Few of them are employed in manufactories, but they become masons' labourers, or follow whatever other casual occupation they can obtain. They are badly clothed, miserably fed, and miserably lodged, and, in every respect, exhibit a striking contrast to their more fortunate neighbours. They are much worse subjects of Disease, and, as far as my own experienee allows me to decide, are peculiarly subject to an embarrassing Cachectic state, which, though it does not prevent them from pursuing their customary work, diminishes much their chance of recovery, when they are attacked by acute maladies.

To this unfavourable statement, it is a pleasure to add, that even with the Irish, considerable and manifest improvement has taken place during the last eight years. Many more of them are employed than formerly in manufactories; their appearance is bettered, and they are much less addicted to drunkenness. They seem, in fact, to have a stronger sense of the advantages of civilization.

The part of the Town which the Irish mostly frequent, is not more closely built than many others in which Fever does not prevail; but the Population is more dense, and, as has already been suggested, it is to this, with their low Diet, that the greater frequency of this Disease in their quarters is to be attributed. Whether, however, the Fever attack the native Inhabitants, or these miserable Emigrants, it exhibits no specific difference in its character; yet it is much more fatal with the latter than with the former.

It commences very frequently in the form of common Catarrh, with Discharge from the Nose, Cough, Head-ache, and Shivering. The Pulse varies much, being small, sharp, and frequent; or full, soft, not very frequent, and easily compressible. Bleeding is better endured by the former class of Patients, than by the latter; and it is sometimes in the last case, even dangerous to practice it. For the first few days, the Patient scarcely suspects himself to be seriously ill; he continues his employment, but daily finds himself less and less able to persevere. He at length yields entirely; his Eyes are bloodshot; his Skin burns, his Face alternates with fiery flushes and deadly paleness, his Limbs tremble, and, on attempting to show his Tongue, there is a fearful Tremor. In this state, without much alteration, he will frequently lie for a week or fortnight, or even more. At some period of the complaint, sooner or later in different Patients, pain in the Bowels supervenes, Diarrhæa, and discharge of Blood from the Intestines. The Diarrhæa often persists during convalescence. If the Patient goes on well, all these symptoms gradually subside, but so gradually, that no critical period can be marked. When death ensues, the usual appearances are discovered, congestion in the Brain, frequently in the Lungs, and, in most cases, more or less ulceration of the Bowels.

[TO BE CONTINUED.]

ARTICLE VI.

HOSPITAL REPORTS.

WORCESTER INFIRMARY.—CASES IN SURGERY.

Dislocation of the right Hip, with Compound Fracture of the left Leg.

William Wanklin, æt. 23, was received into the Worcester Infirmary, February 27th, under the care of Mr. Sheppard, in consequence of a severe injury he received by a quantity of gravel falling on him while working in a pit. The accident occurred in the neighbourhood of Malvern, a distance of eight miles, and he was sent to the Hospital in an open cart. The day was very wet and cold, and the Patient, on his arrival, was faint and much exhausted. On examination, the right Hip was found to be dislocated, and there was also a compound fracture of the left Leg. The present state of the Patient being judged most favourable to the reduction of the Hip, the fractured limb was temporarily secured in Splints, the Patient placed on a table, and the dislocation (which was in the Ischiatic Notch,) was reduced by extension with the Pullies, in less than ten minutes. The Patient was now removed to bed, the Bones of the Leg placed in apposition, and the wound being small, and not much contusion surrounding it, united by the first intention. The Patient was discharged cured, in six weeks after the accident.

Case II.—Compound Fracture of the Leg.

J. West, æt. 41, was admitted into the Infirmary Sept. 19th, 1825, under the care of Mr. Sheppard, with compound Fracture of the Leg. On examination, both Bones were found fractured about four inches above the Ankle, with two small wounds through the Skin, corresponding to the fractured ends of the bones. The Tibia was also broken, *immediately above the Malleolus internus*, and this fracture was discovered to communicate with the Ankle Joint. The lower part of the Leg and Foot was severely bruised. The man's general health was much affected, having been labouring under illness for the last six months.

Treatment.—The Bones, which were but slightly displaced, by gentle extension, were easily brought in apposition with each other; the edges of the Wounds were brought together by Adhesive Plaster, and the Leg placed *on the side* in the semiflexed position. It was bound up in the tail bandage, and a Splint placed above and below. The parts to be kept wet with a cold evaporating Lotion.

Sept. 20th.—Has had much pain in the Leg during the night. Pulse 100; Tongue, white and dry; Skin, hot but moist. There is tenderness on pressure in the Epigastric Region. ℞ Hydrarg. Sub. gr. v. Pulv. Jalapæ, gr. xv. ft. Bol. stat. sum. Mist. Cath. ℥ ij. post horas quatuor.

10 o'clock, p. m.—Pain continues. Has been unable to lie still, and the Leg much out of the proper position. The Medicine has operated well. The Splints and Bandage loosened. Sumat. Tr. Opii. ℥ ss. h. s.

21st.—Leg rather easier this morning; he had about two hours' sleep during the night. Pulse, 100, not hard; Tongue, no cleaner; Bowels, rather confined. The pain and tenderness of the Epigastric Region removed. Rept. Haus. Cath.

22nd.—Pain in the Leg much abated; Bowels, open; Tongue, cleaner; slept a little in the night. The Splints and Bandage were this day removed, with the intention of dressing the Leg, but there being no discharge, the Wounds were not exposed.

23rd.—The Leg dressed this morning. Wounds have not united. The contused parts over the Tibia, to some extent, are of a livid hue, and appear likely to slough. The Febrile symptoms somewhat aggravated. Sumat. Haust. Salin. efferves. quartis horis. Pulv. Ipecac. Co. gr. x. h. s. A Poultice to be applied to the Leg.

24th.—The Sloughing parts around the wound are becoming detached, and the discharge is very great. Tongue, much furred; Face, flushed, and night sweats; Pulse, 106. Omittr. Pulv. Ipecac. Co. Sumt. Tinct. Opii. ℥ ss. hac nocte. Cont. Haust. Salin. efferves.

26th.—The dead parts are separated, and there is a large unhealthy Sore surrounding the Tibia, about the size of a crown piece, whereby the fractured ends of the Bone are exposed.

They are in close contact with each other. There is a small Slough over the Fibula, but it is merely superficial.

27th.—The symptoms abated. Allowed some Meat daily.

28th.—Wound discharges profusely. Has no pain; in other respects much the same. Allowed four ounces of Port Wine daily.

October 1st.—The Leg is improved in appearance, and the Wound looks cleaner. Granulations are beginning to shew themselves. Has no pain; sleeps well at night; appetite good.

4th.—The Wound looks exceeding well; Granulations of a florid colour. There is a small opening near the Ankle, which probably communicates with the Joint, as a Fluid is constantly escaping from it, having much the appearace of Synovia. The Leg keeps in a very good position, and is perfectly easy.

6th.—Continues to improve; only a very small portion of the Bone visible, the rest being covered by Granulations; Discharge lessened. The Poultice discontinued, and the Wounds dressed with Lint and the Chalk Cerate.

11th.—Complains of Pain about the Ankle; no Discharge from the wound in this part. The Pain is probably arising from too tight a pressure of the Splint.

13th.—Wound begins to cicatrize, and no part of the Bone is now visible. Bowels, Tongue, and Pulse, natural.

15th.—Wound heals rapidly; a quantity of Matter has formed near the Ankle, but it is quite superficial. No pain. The Matter let out through an opening.

29th.—The Wounds are now quite healed. Union between the Bones appears to have taken place. Health very good.

Nov. 1st.—The Leg turned upon the Heel; a good deal of pain in the Knee and lower part of the Thigh, came on after changing the position.

14th.—Is now allowed to get up, and is able to walk about the Ward with the assistance of crutches.

30th—Discharged cured.

This was a very successful case. The Leg was only lifted once during the whole cure, Oilsilk being placed between the Bandages and the Dressings.

Case III.—Aneurism of the Posterior Tibial Artery, afterwards of the Femoral Artery.

Thomas Griffin, æt. 48, labourer, was received into the Worcester Infirmary, under the care of Mr. Sheppard, July 17, 1825, complaining of pain and swelling in the right Leg. He gives the following account of himself. Three weeks ago he first felt pain and stiffness in the affected Leg, but not such as to prevent him following his usual occupation. Shortly afterwards, he perceived that the Leg began to swell and pulsate; it then became exceedingly painful, and caused a numbness down the Leg, and over the Sole of the Foot. Since then, has kept his

bed, but has undergone no Medical treatment. On examination, a Tumour, hard and diffused, was seen occupying a considerable space at the back part of the Leg, beneath the Gastrocnemii Muscles. The Tumour is very tense and painful, and a pulsation is easily perceptible. It communicates a powerful impulse to the Hand, and gives the feeling of forcible resistance to pressure. The Pulsation is stopped by pressure on the Femoral Artery above, and the sudden return of Blood into the Tumour, causes excessive pain. The Pulsation cannot be felt in the Posterior Tibial Artery, where it passes round the Malleolus Internus; but it is felt in the Anterior Tibial. He has not enjoyed good health for two months previous to this, and the whole Arterial action is much increased. The Pulse, at the Wrist, is remarkably strong, and beats about 90 in the minute; Tongue, furred and dry; Appetite, bad; Head-ache; no pain or tenderness in the Abdomen, and no Cough.

The following was the plan of treatment adopted. ℞ Liquor Plumbi ʒ i. Aquæ puræ ℔ i. ft. Lotio cruri applicand. ℞ Hydrarg. Submur. gr. v. Pulv. Jalapæ, gr. xij. stat. sum. Mist. Cathart. ℥ ij. cras mané. 16 ℥ of Blood was taken from the Arm.

July 20th.—The man being now in a fit state for the operation, it was thought prudent not to delay it. The Artery was secured in the usual manner, by a single ligature, where it is crossed by the Sartorius Muscle. When the vessel was tied, all Pulsation in the Tumour ceased, but the pain continued.

10 o'clock, p. m.—The pain in the Tumour has diminished since the operation, but the slightest touch causes excessive pain. Tongue, white and dry; Pulse, 96, strong; Bowels have been once moved since the operation. Complains of a tingling sensation in the Foot. The heat of the affected limb is greater than that of the other. No Pulsation in the Anterior Tibial Artery.

21st.—The Tumour is rather less, and not so hard; very painful. The Leg of the natural temperature, but the Foot rather colder. Skin, hot; Pulse, 100, strong; Bowels not open. Sumat. Mist Cath. ℥ ij. statim.

22rd.—Wound dressed this morning; nearly united by the first intention, except where the ligature comes through. Aneureism much diminished, softer, and less painful, on being handled. No pain in the wound, but a pricking sensation in the Foot. Tongue, cleaner; Pulse, 104, softer; had some refreshing sleep in the night.

Aug. 1st.—From the last report to the present time, has been doing well. The Tumour is now much lessened, and very soft. No pain or pulsation; Wound nearly healed; ligature not yet come away; Pulse, 120, and rather strong; Bowels, regular; Tongue, clean.

5th.—A small quantity of matter has formed near the upper end of the wound, and a Poultice was applied. Complains of some pain. Calf of the Leg nearly reduced to its natural size; Tongue, clean; Bowels, regular; Pulse, quick.

6th.—Abscess broke during the night, and discharged a small quantity of Pus, since which time he has been easier.

7th.—The ligature came away this morning; 17 days after the operation.

31st.—From the last report to the present time, the Patient has been doing remarkably well. Health is much improved, and the Leg reduced to its natural size. He has, however, occasionally, a trifling pain in the Foot. The wound in the Thigh is now healed, except one small sinuous opening at the upper part, which has remained stationary for the last week, discharging a small quantity of Pus. On visiting him this morning, he complained of a good deal of pain in the part, and the Poultice from the wound was slightly tinged with Blood. There was some hardness surrounding it; it looked inflamed, and was tender to the touch. I was summoned to him this evening, on account of Hæmorrhage from the wound. A stream of Blood, of the size of a crow-quill, came through the Sinus per Saltum, and of a florid red colour. It was easily restrained by pressure on the Artery above, but again came on as often as the pressure was removed. The only probable cause was, that the Artery had, by some means, given way, so that constant pressure was necessary to be kept up. By midnight, a large quantity of Blood had become diffused in the Cellular Membrane of the Thigh, forming an Aneurism, and, by the morning, it had increased to an immense size, extending upwards nearly to Poupart's Ligament, and pulsating violently. The Hæmorrhage through the night could with difficulty be restrained by keeping up a firm and constant pressure on the Artery above, and over the wound in the Thigh. Did not complain of much pain. His Tongue was furred and dry; Skin, hot; Pulse, 74 and hard.

Early the following morning, Sept. 1st, Mr. Sheppard was sent for, who, on visiting him, immediately proceeded to tie the external Iliac Artery. The operation was performed in the presence, and with the concurrence, of the other Surgeons of the Institution, and the Artery readily and speedily secured. The Pulsation in the Thigh immediately ceased. The edges of the wound were brought together by two Sutures, and a few strips of Adhesive Plaister. He bore the operation well.

2 o'clock, p. m.—Feels pretty comfortable, except a slight aching pain in the wound. Pulse, 80; Skin, hot and dry; Thirst; Tongue, furred; Countenance, anxious; and Spirits much depressed. Thinks he shall not recover.

10 o'clock, p. m.—As before. Heat of the affected limb greater than the other, except the Foot, which is somewhat colder. Bowels not open.. ℞ Ol. Ricini ℥ ss. statim. Tinct. Opii ♏ xxx. hâc nocte horâ somni.

2nd.—Feels comfortable this morning. Pulse, 84, hard; Tongue, furred and dry; Skin, hot; the Thigh is lessened. Had some refreshing sleep in the night. ℞ Potassæ Nit. gr. x. Tinct. Digitalis, ♏ x. Liq. Am. Acet. Aquæ font. aa. ℥ ss. syr. simp. ℥ i. ft. Haustus, 4tis horis sumendus.

4th.—Febrile symptoms abated. Has no appetite for his food. Bowels, regular. On pressing the Abdomen, the Aorta is distinctly seen and felt pulsating. The wound, which was dressed this morning, looked remarkably well. The Thigh gradually lessens.

7th.—Continues well. Skin, Bowels, and Tongue, natural. There is a quantity of thick Coagulum mixed with Pus, discharged from the old wound in the Thigh. It has not suppurated, but there are two openings just large enough to admit the end of the little finger through which the discharge escapes.

11th.—Continues well. The wound heals rapidly. The size of the Thigh gradually diminishes. There is a deep Pulsation felt in the course of the Femoral Artery, below Poupart's Ligament. Allowed a little animal food.

27th.—From the last report till the present time, has been daily improving. The ligature came away this morning in the dressings. The wounds in the Thigh are now just large enough to admit the blunt end of a probe, and there is scarcely any discharge. The great quantity of Coagulum must have been chiefly removed by Absorption. General health very good.

Oct. 20th.—Is now quite recovered, and from the last date has had no untoward symptom. The Thigh and Leg are of their natural size, and, excepting a slight stiffness from long continued rest, feels no inconvenience. Discharged, cured.

The report of the above cases was drawn up by Mr. C. Thomson, an intelligent and diligent Pupil of the Infirmary, who has, on all occasions, shewn an anxious and praise-worthy zeal, in acquiring knowledge, and promoting the interests of his profession. J. P. S.

Case IV.—Tumour over the Orbitary Plate of the Frontal Bone.

On the 30th of March, 1824, I was requested to see A. B. a patient in the Worcester Infirmary, æt. 45, a labourer. A few hours before, he had become insensible, with paralysis of all the Muscles on the *right* side of the body; he had stertorous breathing, with the Pupil of the Eye contracted to a point, the Iris motionless, and the Pulse slow. He came to the Infirmary a month before this time, complaining of pain and Inflammation in his left Eye, for which he was admitted by the Surgeon. Upon examination, there was found a small fistulous opening beneath the superciliary ridge of the affected Eye, through which a probe could be passed to the back of the Orbit. A fortnight after his admission, he was seized with Shivering, Nausea, quick Pulse, some degree of Somnolency alternating with restlessness, hot and dry surface, and flushed Face. These symptoms subsided, and he continued better up to the time of the attack on the 30th of March, above described. Some white curdy matter escaped from the fistulous opening above the Eye. Trepanning the Frontal Bone over the left Orbit, was proposed, but it was not

done. Leeches were applied to the Head; Blood was also drawn from the Temporal Artery; and the Bowels were, with difficulty, opened by strong Purgatives, and Glysters of Turpentine. He died five days after the appearance of the apoplectic symptoms.

Examination of the body, 24 hours after death.—A Tumour, white and cheesy, of the size of a large walnut, lay above the left Orbit, about the middle of the Superciliary Ridge. It appeared to have been formed between the tables of the Frontal Bone, which it had separated from each other, producing absorption of the Cancellar Structure: also of the Inner Table, and of the Orbitary Plate, so that the Tumour was in contact with the Eye-ball beneath, and the Dura Mater behind. The Dura Mater was adherent to the Tumour on one side, and to the Pia Mater on the other, and at the place of adhesion was blackened for the space of a shilling. Immediately behind the Tumour was an Abscess, occupying the whole anterior Lobe of the left hemisphere of the Brain, and containing three ounces of fetid pus. The Medullary substance of the Brain, around the Abscess, was softened, and had a yellow tint. The vessels of the Brain were turgid with blood, and there were two ounces of serum in the Lateral Ventricles. JONAS MALDEN, M. D.

Worcester Infirmary.

The Number of Patients treated in the Worcester General Infirmary, from the 1st of January, 1828, to June 30th, 1828, (exclusive of those previously on the Books,) amounted to 507; of these, 257 were Medical; 250 Surgical Cases.—Males, 282; Females, 225.—In-Patients, 277; Out-Patients, 230.

General results.—Cured, 285; relieved, 74; discharged at their own request, 4; for irregularity, 5; dead, 14. Remaining on the books, 30th of June, 1828, 125—507.

Diseases treated during the above six months.—Abcess, common, 14; Lumbar, 1; Psoas, 1—Amenorrhea, 6—Aneurism, popliteal, 1; by Anastomonis, 1—Anomalous, 9—Anthrax, 1—Amaurosis, 1—Bite of dog, 1—Bronchocele, 3—Bubo, 1—Burn, 3—Cephalalgia, 15—Concussion of Brain, 3—Constipation, 2—Contusion, 22—Chorea, 6—Colica Pictonum, 2—Cutaneous affections, Erythema, 1; Herpes, 1; Impetigo, 3; Lepra, 2; Lupus, 2; Porrigo, 4; Psoriasis, 8; Scabies, 1—Cynanche Tonsillaris, 1—Dropsy of Abdomen, 1; general, 2; Tunic. Vag. test. 4—Dyspepsia, 30—Epilepsy, 2—Eye, diseases of, 17—Fever, continued, 9; intermittent, 1—Fistula-in-ano, 2—Fracture simple, of extremities, 14; Clavicle, 1; of Ribs, 4; Compound, of extremities, 2—Ganglion, 1—Gonorrhœa, 5—Hæmorrhage from Stomach, 1—Heart, organic disease of, 7—Hernia, 17—Hypochondriasis, 1—Inflammation of Brain, 1; Bronchi, 32; Intestines, 2; Larynx, 1; Liver, 11; Lungs, 12; Mamma, 2; Pleura, 3—Joints, diseased, 40—Leucorrhea, 2—Liver, diseased, 10—Menorrhagia, 1—Ovarium, disease of, 2—

Paralysis, 6—Phthisis pulmonalis, 7—Retention of Urine, 1—Rheumatism, Acute, 8; Chronic, 33—Scald, 1—Schirrus and Cancer, 1—Scrofula, 7—Spine, diseases of, 5—Stricture of Œsophagus, 1; Rectum, 1; in Urethra, 3—Syphilis, 5—Tabes Mesenter. 1—Tumour, 5—Ulcers, 36—Wounds, 21—Whitlow, 1—Worms, 1.

ARTICLE VII.

Physconia, connected with the Uterus.

BY KENRICK WATSON, ESQ.

Surgeon, Stourport.

July 11th, 1811.—J. A. æt. 38, has been in bad health several months, complaining of pain in her Back, and the lower part of the Abdomen, which appears fuller than natural. Exercise, (particularly on horseback,) and Wine increases her suffering. Upon examination, a Tumour as large as a child's head was discovered in the situation of the Uterus, which is tender when pressed. The Catamenia are regular.

April 14, 1815.—The Tumour has continued to increase up to the present time, and she is now as large as a woman in the sixth month of pregnancy. The Catamenia continue regular, and the general health tolerably good. The usual means have been employed for her relief, without success. The Warm Bath affords more relief than any thing else.

December 31st, 1816.—Symptoms much as before. She is now the size of a woman at the full period of pregnancy. Catamenia regular.

Notwithstanding the gradual increase of the Tumour, she lived more than nine years after the last report, and died upon the 13th of March, 1826. Her sufferings during the last two years, were very great, principally occasioned by the weight and pressure of the Tumour.

Examination of the body twenty-four hours after death.—Great emaciation had taken place. About a gallon of dark-coloured fluid was drawn off with a Trocar from the upper part of the Tumour, before the Integuments were divided. The Abdominal Muscles were almost entirely absorbed. The Omentum was spread over the surface of the upper part of the Tumour, and firm adhesions had taken place between the folds of the Peritoneum in the other parts. The Tumour extended from the Pelvis, as high as the third true Rib. The Thoracic Viscera being of course compressed into a very small space.

When the diseased part of the Uterus was cut into, its appearance was like udder of a cow, intermixed with Hydatids, some of which contained fluid, others were ruptured.

Upon removing the whole mass, it appeared to be the Uterus, with a large Tumour attached to its Fundus. The Os Uteri was in its natural situation. Partial Ulceration had taken place on one side of it. The Cavity of the Uterus was in its natural state, but larger than usual. It would have contained about four ounces of fluid. The Ovaries were about the size of a hen's egg. Attached to the lower part of this large Tumour, was a smaller one, about the size of a cocoa nut. Indeed, the whole mass appears to have been originally several smaller Tumours, or Tubercles, which had been united by pressure, so as to form one mass. Intermixed with these Tumours, were Hydatids of various sizes, and several large irregular Cavities, filled with fluid. The whole mass must have weighed between twenty and thirty pounds.

ARTICLE VIII.

Case of Abscess of the Liver.

BY GEORGE WALDRON, ESQ. SURGEON, BATH.

July 21, 1826, I was required to attend Miss N. a young lady 21 years of age, who laboured under Acute Inflammation of the Liver. I immediately bled her, and pursued the most active plan of treatment possible, by frequent Blood-lettings, the application of Leeches, and afterwards, Blisters, Fomentations, Enemata, &c. Every attention was paid to the administration of such Purgatives, as the case, at the onset, appeared to require; and afterwards, Calomel and Opium were administered, with a view to arrest the Inflammatory action which still was unsubdued, and which, in spite of all endeavours, terminated in Abcess. Aug. 15th, her respiration became so laborious, and sense of suffocation so great, that I was induced to remain with her during the night. On the convex surface of the Liver, on the lower portion of the left Lobe, a Tumour was evident, and fluctuation, though deep seated, could be felt. Towards the morning of the 16th, her feelings became so distressing, and sense of suffocation so great, attended with rapid and feeble Pulse, and sunk Countenance, that I proposed to Puncture the Abscess. Sir George Gibbes had been called in to see this young lady, and, on the evening of the 15th, I suggested to him my view of Puncturing the Abscess, in case of the symptoms becoming more alarming, in which he acquiesced. Having elevated the Pelvis with pillows, and supported the Shoulders in the same way, I made an Incision of an inch long, with a Scalpel, through the Integuments, about the centre of the Tumour, and then introduced a Trochar to the depth of an inch and half, before any Pus made its appearance; a copious discharge of Pus, mixed with curd-like Flakes and Bile, now took place, to the extent of a pint. The relief experienced by my Patient was very great and satisfactory, and, within half an hour of the operation, she fell into a tranquil and sweet sleep. When I withdrew the Trochar, I placed a Tent of lint within the orifice of the puncture, to prevent its closing, and a very profuse discharge of Biliary Matter took place during the day, the extent of which excited rather the surprise of Sir George Gibbes and myself. A considerable discharge continued for a week after the operation, when it gradually subsided, and the part healed and became perfectly easy. From this period, she, by very gradual steps, became better, and, during the month of December, 1826, she joined her family circle, and took an airing in a carriage. It was not with my concurrence that she thus ventured, but her long confinement made her anxious to try what some change might effect, and, I lament to state, that the worst consequences resulted from her temerity; all her urgent symptoms returned with increased violence, and defied all attempts even at mitigation, and on the 3rd of March, 1827, she died.

Sectio Cadaveris.—Twenty-four hours after death, I examined the body, in the presence of Mr. Geo. Goldstone, Surgeon, of this city. In the Chest, the Lungs and Heart appeared healthy; in the Abdomen, the Liver, on its convex surface, appeared dark coloured, and highly vascular. Patches of coagulable lymph were thickly spread over its whole surface, and the Lymphatics appeared gorged with grumous Blood. About the centre of the left Lobe, a small indentation was discernible, where the Trochar had perforated, but the Abscess, which was circumscribed, and had evidently been situated underneath the external membrane of the Liver, was perfectly healed; the adhesions at the boundary of the Abscess, still remained. The Liver was considerably increased

in size; on turning it aside, in order to examine its concave surface, an Abscess of a very considerable extent gave way near to where it is perforated by the large Blood Vessels; upon removing it from the body, it appeared that the Abscess occupied nearly the entire substance of the Liver, extending from the right to the left Lobe; and the greater portion of the substance of the Liver was ulcerated and destroyed. When the Matter was evacuated, nothing more than a thin portion of the outer surface of the Liver remained. From two to three pints of Matter were collected, which had been extravasated into the Abdomen. Both the small and large Intestines appeared more vascular than common; the Mesenteric Glands were enlarged and indurated; the Spleen was enlarged and vascular; the rest of the Viscera exhibited no morbid appearances.

Observations.—At the commencement of Miss N.'s first attack, when Blood was taken from the Arm, it appeared sizy, but was not in the slightest degree cupped or buffy; this appearance of Blood continued till the fourth bleeding, and after 24 Leeches had also been applied; it then presented a thick buffy coat, and was largely Cupped; the relief which such Blood-letting afforded was immediate, producing an entire suspension of that pain, heat, and laboured respiration under which she suffered. The Pulse, which was frequent (viz. 110 in a minute,) strong, and hard, became soft and compressible, and reduced in frequency to 90. Violent Summer heats, accompanied with habitual costiveness, appear to have been the exciting causes of this young lady's attack, which was, for some length of time, evidently confined to the external membrane of the Liver; and not till December, 1826, did the Parenchymatous substance appear to participate in the disease; she then suffered constant rigors, deep seated and dull pain, accompanied with great weight, referred to the concave surface of the Liver. Her Pulse was now no more than 96 strokes in a minute, and her Tongue morbidly red and clean. A few days previous to her death, she was attacked with Hemiplegia and Strabismus; her power of Speech nearly left her, and she continued in a constant doze. I regret that an examination of the Head was not taken, which would, no doubt, have exhibited a congested state of the vessels of the Brain; but we were allowed only to open the Abdomen, in order to examine the state of the Liver.

ARTICLE IX.

Amputation of a large FUNGUS HŒMATODES *of the Breast.*

BY R. FLETCHER, ESQ.

Surgeon to the Gloucester General Infirmary.

MRS. T. aged 35, ten years ago, first perceived a Tumour, about the size of a walnut, in her right Breast, which gave her no pain, and did not sensibly increase, until she weaned her second child, two years and a half ago. From that period, it enlarged rapidly, and when she came to Gloucester to consult Mr. Fletcher, (some time in October, 1827,) it had attained a very considerable size. The growth of the Tumour was attended with a dull heavy pain; it was likewise subject to periodical attacks of active Inflammation, during which shooting pains were experienced, and the Glands in the Axilla became temporarily swollen. Mr. Fletcher recommended its removal, to which she would not then consent; recourse was therefore had to the repeated application of leeches, with low diet, which diminished the Tumour for a time, but produced no permanent benefit.

The Tincture of Iodine was tried at one time, and, at another, a course of Mercury, without any perceptible advantage.

She then left Gloucester for some months, and returned the beginning of July, 1828, having determined to submit to an operation.

At that time, the Tumour had attained a very large size, and appeared to consist of several masses, having a firm and somewhat elastic feel. Veins very numerous, and as large as the little finger, ramified in all directions over its surface. She complained of a dull heavy pain, but no shooting or lancinating pains were experienced. There was a slight adhesion near the sterno-clavicular articulation. The Glands in the neighbourhood of the disease, were neither enlarged nor painful.

The remarkable size of the Tumour, its progress, history, and strongly vascular character, decided Mr. Fletcher in the opinion that the complaint was of the nature of Fungus Hœmatodes. A vast Hæmorrhage was therefore anticipated on its removal, and, as the shock of so severe an operation would inevitably require all the powers of the constitution to withstand it, the least unnecessary loss of blood was to be guarded against with more (if possible,) than usual care.

Hence Mr. Fletcher directed, that immediately on the removal of the Tumour, two of the attendants should be ready to place the palms of their hands firmly on the bleeding suface. The Subclavian Artery was compressed over the first rib, by means of a large padded key. Three or four ounces of Wine were given before the commencement of the operation.

The first incision was quickly made round the Tumour, wide of its base, when some Arteries bled furiously, one of which was tied; but as it was thought that the advantage of securing the rest would not compensate for the loss of Blood, the disseetion was rapidly proceeded with, and the Breast removed by the knuckles and the knife in about a minute and a half. The rush of Blood, (chiefly venous,) was tremendous, and though commanded as soon as possible, by the means previously directed, the loss was very considerable, probably not less than three pints. The pressure on the sore, and that on the subclavian, were continued for eight or ten minutes, when the former being gradually removed, the vessels which bled, (about seven in number,) were secured.

The shock produced on the Nervous system, by this severe operation, and the great loss of Blood, reduced the powers of life to a very low ebb. The Patient was cold, livid, and speechless. Great quantities of Wine and Brandy were given during the operation, and some at intervals afterwards; and, until five hours had elapsed, it was not thought safe to remove her off the table into her bed.

The parts removed weighed exactly seven pounds and a quarter; and the diseased structure being cut into, exhibited the usual brainlike appearances.

Abundance of Skin might have been saved in this operation, but Mr. Fletcher determined to keep the wound quite open, that he might thus be enabled to detect any unhealthy appearances; and it was fortunate that this plan of treatment was adopted, for, during the first five weeks, small vascular spots, with yellow lymph deposited round them, were continually presenting themselves in different parts of the surface, and were immediately destroyed by the strong Arsenical Ointment, or Nitric Acid very slightly diluted. For the last month, nothing of the kind has been seen, and the Wound is contracted to the size of a crown piece, with a healthy granulating even surface, presenting, altogether, a prospect most favourable and satisfactory.

ALFRED J. WOOD,
Senior Pupil to Mr. Fletcher.

Gloucester, Sep. 18th, 1828.

ARTICLE X.

Case of ULCER of the right Hemisphere of the BRAIN, in which the only symptom remarked before death, was a convulsive affection of the Muscles on the left side of the Body.

THE following case appears to me particularly worthy of record, as it immediately bears upon the recent investigations of Mr. C. Bell, and other modern Anatomists, relative to the functions of the Brain, Cerebellum, and Spinal Cord.

July, 1823.—D. B. æt. 69, a gentleman in easy circumstances, had been, through life, of what is called a nervous temperament. During the greater part of his life he had been in retirement, and was very temperate in diet. In the year 1819, he experienced a Paralytic affection of the right side. He was Cupped; Leeches were applied, and he took Castor and Assafœtida. He soon recovered perfectly; so that he again enjoyed himself as before, and never complained of his head.

In the month of June, 1823, having been very well up to that time, he took Cold, by being exposed in his garden. Soon afterwards, a Convulsive affection of the left lower extremity began to appear. This soon extended to the upper extremity. A Physician now saw him. There was no head-ache; no delirium. His intellect was clear. He had no giddiness. There were, occasionally, intervals of freedom from the Convulsive affection. The Tongue was foul, and the Pulse rather hard and full.

The Patient was ordered to be bled, but he objected to this, as he had invariably found the loss of blood prejudicial. He was freely purged, but it produced no beneficial result. The Convulsive action continued. The Pulse was not quite so full, nor was the Tongue so much loaded. Dover's Powder was now given in repeated doses, but it had no effect in relieving the Spasms. On the 24th of June I first saw the Patient, in consequence of the Spasms becoming more severe and painful. In

the evening of that day, he had two most violent fits of Spasmodic affection of all the Muscles on the left side of the body, and the Breath was much distressed. During these attacks, the intellect was not, in the slightest degree, impaired; neither was there any diminution of Sensibility of the Trunk or Extremities on the affected side. The Pulse was rather full; Tongue loaded; Bowels costive; and he complained of flatulence. He had an Aperient Draught. A Blister was applied to the Nape of the Neck, and he took, after the Bowels were moved, one grain of Opium, in combination with Camphor and Assafœtida, every four hours.

The next day there was a little relief, and he sometimes remained nearly half an hour without any Spasm; but any attempt to use the Limbs, immediately reproduced the Spasms, and he was compelled, on that account, to remain in bed.

On the 28th, 29th, and 30th of June, the Spasms were chiefly confined to the left lower extremity, and a Blister was applied over the course of the Sciatic Nerve, and, for a day or two, the Spasms were lessened. All this time he repeatedly declared, that the sense of Touch was as perfect on one side of the body as on the other.

On the 4th of July, the Paroxysms of Spasmodic Action of the left side of the Body, and of the Extremities of the same side, came on so violently, and continued so uninterruptedly, that with great difficulty he was held in bed by four attendants. The Countenance was expressive of anguish, from the severity of suffering, but the poor fellow bore it most heroically, and felt certain of being well if the Spasms would leave him. There was still no Pain in the Head; but the Pulse became quicker and fuller.

He was Bled to twelve ounces, but this remedy gave no relief to the Spasms; neither was any obtained by Opium in very large doses.

The next day he fell into Coma. The Spasmodic Affection became still more severe, and he died in the evening.

Inspection of the body, 48 hours after death.—The Membranes of the Brain were much loaded with Blood, but there was no Serous effusion between them. The Cerebrum was more than usually vascular, and the Lateral Ventricles contained about $2\frac{1}{2}$ ounces of Serous Fluid.

On the anterior Lobe of the right Hemisphere of the Brain, there was an Ulcer, one inch and a half in length, and one inch in breadth. The Ulcer was superficial, and did not proceed far into the substance of the Brain. The surface of the Ulcer was of a dirty yellow colour. The Brain around the Ulcer was not at all hardened, nor more vascular than other parts of the organ.

The left Hemisphere of the Brain, as well as the whole of the Cerebellum, was free from any disorganization.

We examined the Spinal Cord carefully, by removing the Spinal Bony Plates, but we did not observe any increased vas-

cularity of the Membranes. There was, however, some slight Serous effusion. We could not discover any difference between the appearance of the anterior and posterior columns of the Cord.

The Thorax and Abdomen presented no unnatural appearances.

Observations.—We know that the substance of the Cord is divided into four columns, the two anterior of which take their origin from the Crura Cerebri, and the two posterior from the Crura Cerebelli. The Spinal Nerves, which are distributed to the Trunk and Extremities, arise by two distinct roots from one of the anterior and one of the posterior of these columns, and the recent investigations of Mr. Bell, and others, have rendered it very probable, that a diversity of function is concerned in this double origin; that is, that the Posterior Columns give origin to the Nerves of Sensation, and the Anterior to the Nerves of Motion.

So far as a single Pathological fact can be allowed to have any weight, the case related supports such a view of the question, for the Mobility, not the Sensibility, of the Limbs, was affected during life; and after death, the Cerebrum was the only part found in a diseased state; and from it we know, that the two anterior columns of the Spinal Marrow, which give off the Nerves supposed to be concerned in motion, arise.

The above fact is also very hostile to the Phrenological Doctrines, for we cannot conceive, if, as the Phrenologists affirm, the Organs of important functions are situated in the upper part of the Brain, how these Organs can be extensively diseased, and yet their functions continue to be performed with vigour.

CHAS. HASTINGS, M. D.

ARTICLE XI.

Case of Strictured Ileum, with Dissection.

BY JOHN RAYMENT, ESQ. WORCESTER.

W. C. a labourer, had been observed for some months to lose flesh, and generally decline in health and strength; he had, occasionally, complained of a sense of uneasiness in his Bowels, but had not, at any time, been so far indisposed as to apply for Medical assistance. This uneasiness was always attended with costiveness, and was, from time to time, increased generally after eating any thing difficult of digestion, but without any previous disturbance of the stomach. During the last three weeks it had recurred more frequently, and somewhat aggravated. He was visited, for the first time, on the fourth day of his last illness, when he complained chiefly of general obtuse pain in the Abdomen; considerable and continued nausea, but without vomiting; there was little or no tension of either Stomach or Belly; he bore considerable pressure on both without complaining. The Pulse was natural as to strength, and not materially quickened; he had not much thirst, or other febrile symptoms, beyond what might

be readily attributed to the uneasiness and restlessness he had suffered. He had passed four days without a motion. During six and twenty days from the last return, various Aperient Medicines, and other means most likely to procure relief, were continued with great assiduity, but without any success. The symptoms continued uniformly the same, varying only occasionally in degree; the Stomach also rejecting, with but little effort, from time to time, a part of the liquid nourishment taken; he sunk, at last, rather from exhaustion, than from any violence of suffering.

The following post mortem examination was made by Mr. Carden, of Worcester, who had also given his gratuitous attendance, during a considerable part of the Patient's protracted sufferings.

Examination of W. C. twelve hours after death.—Emaciation had proceeded to a considerable extent beyond what is usually occasioned by intestinal obstructions.

The Abdomen was but little distended, and less so than it sometimes appeared in the course of the Patient's illness. On laying open this cavity, the small Intestines wholly occupied the front of it; they were not very tense, though much enlarged, and were of a brownish hue; their convolutions were free from adhesions, with only two very partial exceptions; there was no extravasation of coagulable lymph upon their external coat, and the appearances of increased vascularity were very partial. The Stomach was natural. The Duodenum was a little thickened in its coats. The Liver was healthy in appearance, but less firm than usual in its texture. The Gall Bladder was very full, and elongated beyond its usual bounds; it contained a thin, palish bile. The Pancreas and Spleen were in a natural state. On tracing the small Intestines, nothing presented itself, until we came to the lower portion of the Ileum, which had an adhesion to the Loins, and another dipping into the Pelvis, to the Rectum; between these adhesions, the Bowel was a little folded back upon itself, by a convolution of intestine lying over it. Increased vascularity marked this portion of the Canal, and ulcerations were found in its villous coat. The Mesentery connected with this part of the Intestine, was much loaded with vessels. This membrane was full of Tubercles, differing much in size, from a small pea to that of an olive, so thickly set together, as to leave no interspace. These Tubercles, when cut, presented a white, shining, pearly appearance, exactly corresponding with others which were dispersed over the Peritoneum, lining the Abdominal Muscles, and very thickly over the great and lesser Omentum; also over every membranous production of the Peritoneum. The fatally obstructed part of the Ileum was a little more than an inch from its valvular opening in the Cæcum. It was an annular stricture, reducing the calibre of the Ileum to the size of a small quill. The inner coat of the Bowel was in this part white, having lost its villous appearance, and was puckered. This

strictured portion of the Gut was enveloped in a Tumour springing from the Mesentery, and its outer coat was closely adherent to the Tumour surrounding it. The Gut appeared to have partaken of the disease encircling it, otherwise the Tumour would only have encroached upon the cavity of the Bowel by pressure, and left the coats of the latter unaltered; whereas they had all the appearance of permanent stricture in Membranous Canals, where the Membrane is changed in structure. The same Tumour was adherent to the Cæcum, and to the ascending Colon, for the space of two inches, lessening considerably the cavity of the Cæcum; but on laying open this cavity, the inner Membrane was found quite healthy, and the valvular opening of the Ileum of its natural size and structure; through this opening, a finger could be freely passed along the Ileum, till it was stopped by stricture.

The Tumour was found to be, for the most part, an aggregate of Tubercles, resembling, internally, those already described as springing from the Mesentery. An exception to this resemblance was, however, met with in the centre of the Tumour, where a soft substance was situated, of a mixed appearance, exhibiting a caseous substance, a soft fungus, like a pale fungated Ulcer, and a green Pus of the consistence of thick cream. The vermiform appendix of the Cæcum was found enclosed in this portion of the Tumour.

The small Intestines held a considerable quantity of pultaceous fæces, lightly tinged with bile. The Colon and Rectum were, throughout their track, very much contracted, containing a very small quantity of fœcal substance. The Appendices Epiploicæ were loaded with such Tubercles as we have already described. No Fat was left in any of the parts usually containing it. The Thoracic Viscera were sound.

ARTICLE XII.

Case of Perforation of the DUODENUM, with Discharge of the Contents of the STOMACH, between the 7th and 8th Ribs.

BY ROBERT I. N. STREETEN, M. D.

M. A. W. aged 39, eight years a widow, residing in Cardenstreet, Worcester, was admitted a Patient of the Worcester Dispensary, March 6th, 1828. At the time of admission, she complained of great pain in the Epigastrium, and right Hypochondrium, aggravated by pressure; the Pulse was quick; the Bowels, irregular; and the Stools dark-coloured; the Tongue, furred. She had, also, Cough, with muco-purulent expectoration, and hurried breathing. There was a hard painful Tumour under the right Scapula. The Catamenia were irregular, and she was much emaciated.

She is reported to have enjoyed pretty good health, till about four years ago, when she was attacked with severe pain in the

right Side, shooting through to the Shoulder; for which she was Bled, and had Leeches to the side, and took Purgative Medicines with partial relief. A short time afterwards, in January, 1825, she became a Patient at the Dispensary; and was then repeatedly Bled, Leeched, and Blistered, for the pain of the side; which, however, continued with variable severity during five months; at the end of which period, she was discharged, considerably relieved, but has never been quite well since.

In March last, she again became a Patient of the Dispensary, with similar symptoms. At the commencement of the month, a few days before her admission, a small Tumour was first perceived, immediately below the right Scapula, which increased in size, at first gradually, but afterwards more rapidly, till it formed a swelling about the size of an orange. Leeches were applied to the Tumour, and afterwards a Poultice. In the course of a few days, it broke, and discharged a large quantity of purulent matter, occasionally bloody and fetid. The strength was supported by nourishing Diet and Port Wine, while Anodynes were given to procure sleep, and allay pain. She took, also, the Sulphate of Quinine. Under this treatment, an evident improvement took place, and she appeared to gain strength; the acute pain was relieved, but the side, she said, felt as if raw internally. The Wound was dressed with simple Cerate and Bandages, and on the 10th of June, the discharge had nearly ceased.

On the 16th of June, a small painful Swelling appeared beneath the Skin, situated between the 7th and 8th Ribs, about an inch and a half anterior to the angle of the Ribs. This gradually increased in size till the evening of the 26th. The Skin then gave way, and a large quantity of very offensive dark-coloured bloody matter was discharged. Matter and congealed blood, of a very fetid smell, continued to come away at intervals, till the 1st of July; since which period, the discharge has been in greater quantity, thinner, and, it is reported, of the same nature as the food which she has taken.

On the 4th of July, (the day on which I first saw her,) she had considerable pain in the right Side, and soreness between the two Orifices. The Appetite was pretty good; the Tongue, clean and moist; and the Bowels, regular. She had, at times, alternations of heat and chilliness, with perspirations, especially during sleep. The Pulse was 120, and feeble. She was exceedingly emaciated, and appeared very weak. The Cough, (with which, and the expectoration of muco-purulent matter, occasionally tinged with blood, she had been affected from the first commencement of her complaints,) was very troublesome. On the following morning, a cup of Coffee was given her, and almost immediately after, a quantity of fluid came from the Orifice, below the Mamma. This was caught in a clean cup; it was clear, of a light brown colour, and had a decided smell of Coffee. There was no uneasiness whatever in the left Hypochondrium,

but she said, she felt, occasionally, as if the drink which she took, went towards the Back, and up to the right Axilla. None has been observed to escape from the wound below the Scapula.

On the 7th, there had been no return of the discharge of Fluid or Aliment, but a good deal of offensive Purulent Matter had come from the Wound. She complained that her food appeared to go into the side, and that she had always a sense of fullness and oppression in that part, after eating, with a feeling of soreness and rawness under the Sternum. The Tongue was clean and moist; the Bowels loose; the Pulse about 124; the Debility very great.

From this period to the 26th, there was little change in the general state of her symptoms, excepting that she continued to get weaker. The discharge of fluid from the Wound continued at intervals. Milk, which had been given her occasionally, with a little water in it, came away by the Wound shortly afterwards, in a curdled state.

On the 26th, Dr. Hastings saw her with me. The Emaciation and Debility were then extreme; the Pulse was quick and feeble; the Appetite had failed; the Bowels were rather costive; the Cough was exceedingly troublesome. She took a little Water at the visit, which almost immediately came out at the Wound; it had a sour smell. Some Milk and Water was then given her; this was passed through the external Orifice five minutes after it had been taken, perfectly curdled. The Abdominal Muscles were thrown into action previous to the passage of the Milk. She died in the course of the night.

Sectio Cadaveris, 16 *hours after death.*—Body reduced to the extreme of emaciation. Between the seventh and eighth Ribs, about an inch and a half from the angle, were two openings; the larger about an inch in length, the smaller large enough to admit a horse bean. The Wound looked dark and sloughy. The lower edge of the seventh, and the upper edge of the eighth Ribs, were carious, for about an inch in the site of the Wound.

Abdomen.—The left Lobe of the Liver was greatly enlarged, and of a pale colour, extending across the Epigastrium into the left Hypochondrium, and displacing the Stomach. The right Lobe was of a globular, ovoid shape, about the size of a large heart; its inferior edge was tumid and rounded. It was closely applied to the left Lobe, and, at the superior and anterior part, firmly connected with the Cartilages of the seventh and eighth Ribs, by a strong fibro-cartilaginous structure, in some places upwards of a quarter of an inch in thickness.

The Stomach was displaced by the enlarged Liver, the larger curvature being situated a little below the Umbilicus, and the smaller curvature being applied to, and lying under, the thin convex edge of the left Lobe. The Cardiac and Pyloric portions were elongated and narrowed by the stretching arising from the displacement and depression of the central parts. The Pyloric portion of the Stomach ascended from the great curvature below the Umbilicus, merging beneath the edge of the left Lobe

of the Liver, and then passing between the right and left Lobes, by which it was strongly compressed, was attached at and around the Pylorus, upon the upper or convex surface of the Liver, and in close and intimate connexion with the Cartilages of the eighth and ninth Ribs. Immediately beyond the Pyloric Orifice, the Duodenum curved downwards from this point of attachment, and passed between the right and left Lobes of the Liver, through the same channel, and behind the ascending or Pyloric portion of the Stomach. Beyond this point, the Duodenum was much contracted, and contained a small quantity of yellow Mucus. Exactly at the point where the curve of the Duodenum occurred, there was an opening in its coats, which was about two inches and a half from the external Orifice, and communicated with it, by a channel running obliquely upwards and outwards. This channel proceeded along the inner surface of the Cartilages of the eighth and ninth Ribs, crossing the intercostal space, and was then continued along the body of the seventh Rib, where it terminated in a deep groove in the lower edge of this Rib, just before it unites with its Cartilage. The channel was formed anteriorly, by a superficial excavation, or rather smooth depression in the thickened Cellular structure, lining the Cartilages of the Ribs; its posterior surface was formed by the tough fibro-cartilaginous substance, which connected the Liver with the inner surface of the Ribs.

The Mucous Membrane of the Stomach was perfectly healthy.

Below the Stomach was situated the Arch of the Colon, with the Omentum lying across the small Intestines, midway between the Umbilicus and the Pubes.

The Spleen was found lying in the cavity of the Ribs, and by the side of the Cardiac end of the Stomach. The Pancreas was situated across the Spinal column, between the Cardiac and Pyloric portions of the Stomach, and behind the left Lobe of the Liver; both appeared healthy. The right Kidney contained a large Cyst, full of a clear fluid, immediately beneath its Peritoneal Coat.

Thorax.—There were strong adhesions between the Pleura Pulmonalis and Costalis, on the right side of the Chest. Between the seventh and eighth Ribs, immediately below the right Scapula, was a communication between the cavity of the Thorax, and the exterior of the Body: and the eighth Rib, at this part, was found to be carious. This was the site of the Wound in the Back, mentioned in the account of the case. There was no appearance of disease on the surface of the Pleura Pulmonalis, corresponding with this opening. The right Lung, at its inferior part, was resting upon, and inseparably connected with, the superior edge of the right Lobe of the Liver, through the medium of fibro-cartilaginous substance; all traces of the Diaphragm in this part, being lost. Both Lungs were extensively diseased, containing small, firm, white Tubercles; some of them advancing to the suppurative stage. The Head was not examined.

Remarks.—It appears, from the above statement, that there must have been an original malformation in the subject of this singular case; and that the unusual position of the Pylorus, and upper part of the Duodenum, upon the superior or convex surface of the Liver, was intimately connected with its extraordinary and fatal termination. The repeated attacks of Inflammation of the Liver, appear to have induced enlargement, with deposition in the Parenchymatous Structure, of that organ; and, subsequently, compression and constriction of the upper part of the Duodenum, in consequence of its unusual position between the two Lobes. Hence, a difficulty arose in the transmission of the alimentary mass from the Stomach, into the portions of the Intestinal Canal, situated below the constriction. The natural action of the Stomach appears to have transmitted the food through the Pylorus, and thus to have overcome the compression existing upon the Pyloric portion of the Stomach. But when the food had passed through the Pyloric Orifice, the Vis a tergo could no longer have acted in a favourable direction, but must have been exerted upon that portion of the Duodenum, at which the curvature took place; and the passage downwards being impeded, by the partial compression, arising from its situation between the right and left Lobes of the Liver; ulcerative absorption occurred exactly at the spot where the pressure from behind was most felt, that is, at the point of the curvature. The same causes continuing in operation, produced the gradual formation of the channel in the thickened Cellular Membrane, between the Cartilages of the Ribs and the Liver, till, approaching the intercostal space, it terminated externally, producing caries of the Ribs, and ulcerating through the Integuments.

The formation of the Orifice below the Scapula, and of the communication of this part with the cavity of the Thorax, is involved in considerable obscurity. When first observed, it was considered to be a suppurating Tumour, and it appeared at one time, disposed to heal under the usual applications. When I first saw the Patient, the Wound was in a foul and sloughing state; but there was then little discharge from it, and nothing to lead to the suspicion of its having any connection with the Chest. At one time, indeed, it was supposed, from the statements of the Patient, respecting her feelings, that a communication might exist between this part and the Wound under the Mamma; but the idea was given up, when it was found that none of the ingesta escaped from it. From the adhesions existing between the Pleura, and the evidences of Inflammatory action having existed at the lower part of the right side of the Chest, we may, perhaps, be authorized in drawing the conclusion, that the matter discharged from the Orifice, was the production of the inflamed Serous Membrane; and, consequently, that the formation of the Orifice itself, was an effort at a natural cure of the Empyema, if such really existed.

ARTICLE XIII.

Report of the Dispensary at KIDDERMINSTER, *July* 28, 1828.

BY RICHARD JONES, M. D.

THE greater number of cases are of a Chronic or *Subacute* nature, among which a large portion of the deaths occur; indeed, our assistance is often called for where the case is hopeless. Since the commencement of May, we have had no Fever of a malignant or contagious nature. Intermittents are absolutely unknown here. Surgical operations are extremely rare, though Hernia may be said to be peculiarly prevalent, which may arise from the nature of the Carpet Manufacture, in which the operative has a good deal of exertion, while the Abdominal Muscles are in a state of comparative relaxation. One operation for Hernia took place, ending fatally, the subject of which was a man 75 years of age.

The Hooping Cough and Small Pox have prevailed with us lately, especially the former. Three Children, sick with the Hooping Cough, were attacked with Small Pox. The Cough became hoarse, and lost its convulsive character, but in every other respect was unchanged. After the Small Pox had gone through its course, (which it did without any anomalous appearance,) the Cough resumed its usual character, from the alteration of the Throat and Fauces, to a state of health, as I presume. In a Girl six years of age, one Pustule appeared on the inside of the right Arm, which went through its regular course, without constitutional symptoms, till the 12th day, when the child sickened, and Small Pox came on in the regular way.

Water in the Head—both Acute and Chronic, are frequently met with in this Town; I think its frequency may be traced to irregularity in diet, and to the baneful custom of administering strong liquors to the children.

I have used the Nitrate of Silver frequently within these three months, in Epileptic cases, and I have the satisfaction to state, that even where the digestive organs were not affected, its effects have been very satisfactory; so much so, that I should be led to try it in these deplorable cases, even when no very distinct Pathological condition could be pointed out. I always combine this remedy with Extract of Henbane, in the proportion of one grain of the Nitrate, to three grains of the Extract, which combination I give three times a day.

H. B. æt. 41, of spare habit, with Dyspepsia and pain in the Head, was continually subject to Epileptic Fits, which had lately returned after an interval of many months, having been first brought on 14 years ago, by a fright. Bleeding, Purgatives, and other remedies, were prescribed in vain; but at length he recovered, entirely under a course of the Nitrate of Silver, of three months' duration.

A young man, æt. 21, who has had fits once or twice a week, for two years past, and in whom they were brought on by exposure to cold and hard labour, has been taking the Nitrate of Silver for two months, having no Dyspeptic symptoms. It is now six weeks since a very slight Fit occurred, nor has the interval ever extended to this length before.

A Severn Bargeman rapidly recovered under the use of the same remedy; and a woman, æt. 38, who was Epileptic from infancy, has been relieved to a very considerable degree, both as to the frequency and intensity of the Fits.

A Woman, of 50, and a Boy, 12 years of age, received no benefit from its use, but neither persevered with the proper care and attention.

I have frequently made use of the Prussic Acid, in Hooping Cough, in Asthma, and in Phthisis; but I have found, in all cases, that its utility was more decided, exactly as the affection was more purely convulsive.

In a case of Hemiplegia of the Muscles of the left Arm, arising from an Abscess pressing on the great Nerves of the Arm, the Rhus Toxicodendron was of very great benefit, and I have always found it far from inert when administered under proper circumstances.

I have had but one opportunity of trying Dr. Casanuova's plan of curing Acute Rheumatism. The success, however, was complete; the Patient was 16 years of age, and affected in the Knees and Ankles in the most violent manner, whither it had passed from the upper extremities. A grain of Opium was given every hour; after the fourth dose, the deep sleep came on, which lasted for 16 hours, when he awoke in perfect ease; in a week, however, he had a relapse, and took three grains of Opium in a similar manner, with the same success; after which only a stiffness remained, which yielded to the use of Stimulants and Tonics.

A Statement of Patients admitted at the Kidderminster Dispensary, between the 1st of May, and the 31st of July, 1828.

	Admitted.	Males.	Females.	Agricultural.	In Manufacture.	From Town.	From Country.	Medical.	Surgical.	Cured & Relieved.	Dead.	Event unknown.	Remaining.
May,.....	105	51	54	2	103	99	6	84	21	99	3	3	0
June, ...	96	50	46	3	93	88	8	75	21	54	4	2	36
July, ...	70	26	44	0	70	67	3	63	7	12	1	0	57
Casualties since May 19,....	271	122	144	5	266	254	17	222	165	3	5	0	113

ARTICLE XIV.

We have been favoured by Dr. M'Cabe, with a Copy of a Report of the Cheltenham Dispensary, drawn up by that Gentleman, from which we make the following Extracts.

"Six Physicians and six Surgeons afford their advice and assistance at the Cheltenham Dispensary; that is, one of each every day, Sunday excepted. Each Physician and Surgeon attends about an hour, or as much longer as may be necessary, according to the number of Patients in attendance. I find, by examining the books of the Dispensary, together with my own observation, as also from the information of Mr. Gregory, the apothecary, that the average number of Patients, including both medical and surgical cases, that have been prescribed for and attended to at the Dispensary within the last year, amount to about fifty daily. In addition to these, the Medical Officers of the Institution authorize their Dispensary Patients to call on them at their respective houses, whenever they wish to see them during the intervals of their weekly attendance; and should their Patients be unable to attend either at their houses or at the Dispensary, they visit them at their own homes or lodgings whenever they are sent for, or as often as they may think their visits can be useful; so that adding the Out-patients to those prescribed for at the Dispensary, the number of Patients for whom Medicines are dispensed every day at the Dispensary, according to Mr. Gregory's calculation, amounts to an average of about one hundred.

"A Casualty Ward is annexed to the Dispensary, into which are received serious cases of injury from accidents, &c.; and owing to the great number of persons employed in building, such accidents have been frequent during the last

year. The average daily number on the list of the Casualty Ward, during that period, Mr. Gregory thinks, may have been about four. These are provided with every thing they require, from the funds of the Dispensary, in the same way as if they had been in an Infirmary.

"By the rules of the Dispensary, Patients applying for relief, are required to bring a recommendation from a Subscriber; but as an unlimited power of extending the benefits of the Institution is vested in the Medical Officers, no poor person applies in vain, whether with or without a recommendation.

"The expenses of a Charity thus extending its benefits indiscriminately to all who stand in need of them, must be considerable, and must necessarily increase as Cheltenham increases. The extensive scale on which the Buildings and other improvements in Cheltenham are carried on, gives employment to great numbers of the working classes, and encouragement to many more to resort hither than can possibly find employment. All these, whether employed or unemployed, whenever they become the victims of sickness or disease, are legitimate objects of this Institution.

"To meet this increasing expense, it is to be hoped that the number of charitable supporters of the Institution will increase also. One of the principal sources of the support of the Dispensary, is the collections at the several places of worship, where the benevolent ministers of religion preach annual Sermons in aid of the funds of the Charity. These charitable collections, it is to be presumed, will increase as the population of Cheltenham increases."

Dr. M'Cabe concludes his report by recommending the establishment of an Infirmary at Cheltenham, which, he contends, the great increase of poor Inhabitants of late years, renders highly desirable. "I should wish," he observes, "again to direct attention to the comparative degrees of usefulness of a Dispensary and an Infirmary. The former affords to the poor, when overtaken by sickness and disease, Medicine, and Medical attendance; but the latter supplies also a shelter and a home; together with the common necessaries of life, without which, the aid of Medicine and of Surgery will be of but little avail. The subjects that apply at the Dispensary, are generally those who, in every point of view, are objects for the interposition of Charity. And perhaps Charity can never be more efficiently bestowed than in affording to the poor and destitute, when under the pressure of sickness and disease, the asylum of a public Infirmary."

ARTICLE XV.

Lumbar Abscess in a Horse.

April 4, 1826, a bay gelding, 6 years old, then the property of Mr. W. residing near this city, was sent for my inspection. I soon discovered that he was lame, but the proximate cause of the lameness was not so obvious. At times he went very sound and well, and then, in an instant, became incapable of moving the near hind Leg, the muscles of which seemed to be simultaneously and rigidly affected with Spasm. This attack continued for several seconds, after which, he could go on as well as usual for a short distance, (perhaps 80 or 100 yards,) when the same thing almost invariably recurred. Pressure on the Loins produced the same symptoms, which subsided as quickly as in the former instance. He did not, apparently, suffer much pain when in a quiescent state, the Pulse being but little accelerated. His

Bowels were regular, and he voided his Urine in sufficient quantity, and without difficulty. I could not recognise the slightest defect in the action of the off hind Leg, nor could I, upon the most accurate examination of the near one, discover any thing to account for the lameness.

The information I received from the person who brought him to my stables, was, that he had been ridden with the fox-hounds a few days before, and was first found to fail immediately after leaping a high gate at the end of a run.

I treated this case by copious blood-letting, administering an active Cathartic, blistering extensively over the Lumbar region, light diet, warm clothing, and perfect quietude. The Cathartic and Blister were occasionally repeated. In the beginning of May he seemed a little better; a stimulating Adhesive Plaster was then laid upon the blistered surface, and he was sent to grass. He somewhat improved in the course of the summer, until the latter end of August, when febrile disturbance shewed itself in the system, and the lameness very much increased. At this time I entertained little hopes of his recovery. He was become very lean and emaciated, and continued to lose flesh and strength daily. On visiting him on the 3rd of September, I perceived a small Tumour on the off side of the Anus, from which a little Pus oozed out. I immediately opened it, and a very considerable quantity of healthy looking matter escaped. I enlarged the Orifice with a bistoury, so that the Pus could have free exit, and afterwards examined the Abscess with a probe, which I passed (evidently from the length and direction of it,) into the substance of the Psoæ Muscles. The Sinus crossed the Rectum obliquely, the Abscess (as far as I could judge from probing the wound,) being situated on the near side of the Spine. No dressing of any kind was applied, and as the weather was mild he was left at grass. From this time I may date my Patient's recovery; his lameness soon got better, the discharge gradually diminished, and he gained flesh rapidly. By the latter end of October, the Sinus was nearly filled with healthy granulations, and the discharge was very trifling. Before Christmas, the Wound was quite healed, and he was sold. I saw no more of him until November, 1827, when I met him by accident, one day, in the streets, looking very healthy, and in good condition. He was afterwards purchased by a very celebrated sportsman in this county, who told me he rode him several times with the fox-hounds last season, and was carried quite to his satisfaction, and that, as a hack, he found him very sound and effective.

G. Corbett, Veterinary Surgeon.

ARTICLE XVI.

Summary of METEOROLOGICAL OBSERVATIONS *made near* WORCESTER, *in the Months of* JUNE, JULY, AUGUST, *and* SEPTEMBER, 1828.

BY JOHN WILLIAMS, ESQ. OF PITMASTON.

STATE OF BAROMETER, THERMOMETER, &c. FOR JUNE.

THE first six days of this month the mean of the Barometer was 29° 77′, and that of the Thermometer, at 8 a. m. 56°, and at half-past 2 p. m. 61° ; the prevailing wind being S. W. and W. with showers of rain during some part of every day. The mean of the Barometer the following nine days exceeded 30 inches, and the Thermometer rose to 58° at 8 a. m., and to 66° at half-past 2 p. m. ; the prevailing wind N. W. with two days E. and one N. E. From the 16th to the 21st the weather was either wet or cloudy, the mean of the Barometer having sunk again below 30 inches, and the Thermometer was also lower ; in this period there were several thunder storms. The remainder of the month the Barometer again rose to 30 inches and upwards, the Thermometer, at 8 a. m. being 63° 1′, and at half-past 2 p. m. 74° 1′.

JULY.

THE fine seasonable hay-making weather experienced the last eight days of June continued till the 8th of July, the range of the Barometer being between 29° 75′ and 29° 85′ with a dry state of the surface of the ground, the Thermometer being 64° 5′ at 8 a. m. and 72° 7′ at half-past 2 p. m. These sixteen days of successive fine weather, happening at the critical period of the flowering of the wheat, were of most essential advantage to that crop, and caused the ears to be much better filled with grain than could reasonably have been expected from the succeeding unfavourable state of the atmosphere. On the 8th the Barometer fell to 29° 68′, and we had a heavy thunder storm : the same occurred in various parts of the kingdom : these storms brought a deluge of rain, which continued all night and the day following. The Barometer was depressed till the end of the month, fluctuating between 29° 50′ and 29° 80′ with the exception of a day or two, the 30th and 31st, when it attained the fair weather point of 30 inches. During this period there was no steady summer weather ; the Thermometer ranged between 55° and 60° at 8 a. m., and 60° and 65° at half-past 2 p. m. ; there were few days without rain, and the dense cumuli occasionally assumed such very beautiful and picturesque forms as to attract the notice of the most inattentive observers of atmospherical phenomena. Fortunately there were many intervals of brilliant sun, with fine brisk winds between S. W. and N. W. that dried and greened the leaves of plants, and prevented the grain and other crops from receiving the injury they would have sustained had the general character of the weather been calm, close, and cloudy.

AUGUST.

THE hopes of the Agriculturist, which were raised by the height of the Barometer on the two last days of July, were again depressed by the fall of the mercurial column, on the evening of the 1st inst. to 29° 88′ ; it continued depressed, fluctuating between 29° 50′ and 29° 80′ till the morning of the 16th, when it rose to 30 inches, and the mean exceeded this point till the end of the month. From the long continuance of rainy weather the cultivated surface of the whole Island became a perfect morass, but the joint influence of sun and wind gradually dried the surface of the ground, and the increased height of the atmosphere, as indicated by the mercurial column, had the same happy effect on the cumuli, or lower stratum of clouds, which vapour again re-appeared at a vast height in the sky, in the various forms of cirri and cirro-cumuli, the common indications of settled weather. A fine brisk drying wind, from the W. N. W. on the 22d, had a most salutary effect ; fallow fields and other exposed surfaces, which for weeks before consisted of wet mud, became dry, and the usual warm dry summer atmosphere returned ; the mean of the Thermometer, at half-past 2 p. m. from the 24th to the 29th inclusive, being 76°, and the farmers were in full activity in securing their corn harvest.

SEPTEMBER

CONTINUED fine, the Barometrical mean exceeding 30 inches, with the exception of one week after the 8th, and a few days at the close of the month ; the warmest day was the 8th, the Thermometer being at 65° at 8 a. m., and at 78½° at half-past 2 p. m. On the evening of the 29th, a little before 8 p. m. an unusual light was observed about 10 degrees above the western horizon ; it gradually extended itself across the sky, a little to the south of the zenith, and formed a beautiful Luminous Arch, about two degrees in width, becoming gradually paler, and terminating, about 15 degrees above the horizon, in the east ; it lasted about an hour, and was preceded and accompanied by an Aurora Borealis, and as these Luminous Arches are generally accompanied by this Polar light, it is fair to presume it had some connexion with it.

ARTICLE XVII.

PARTES NATURALES PUERI PRÆCOCES.

COMMUNICATED BY JOHN BURNE, M. D.

Licentiate of the Royal College of Physicians, of London ; Honorary Secretary for Foreign Correspondence, of the Medical Society of London ; and formerly President of the Royal Medical Society, of Edinburgh.

THE subject of this communication is a great natural curiosity, and has excited much interest at the several Hospitals and Medical Societies at which he has been exhibited. I therefore hope that a short history of him may be acceptable to your readers ; and although the account may appear a matter of curiosity rather

than of use, it is very deserving of record, seeing that we do not know of what assistance facts of this nature may eventually prove to the science of Physiology.

The boy, John Jones, is four years and six weeks old, and three feet ten inches and three quarters high. He may be called a little Hercules, his frame of body being exceedingly stout, and the muscular development very marked; but with this it retains the plumpness and rotundity, and abundance of adipose substance usual at his age.

Membra ejus genitalia magnitudine æquant partes naturales juvenis septemdecem annos nati, pilisque nigris et crispis vestiuntur. Palus sæpè ab inguine porrigitur, et retrahitur semper præputium; seminis verò emissio adhùc observationem fefellit.

His Head is large, and particularly wide from ear to ear, and the volume of Brain posterior to a perpendicular plane passing through the Meatus Auditorii, is strikingly greater than the volume of Brain anterior to such plane. The size of the Cerebellum is very remarkable, and, by measurement, it is found to exceed the generality of adults, and almost to equal that of Dr. Gall, the dimensions of whose head at this part were unusually large. These facts have particularly attracted the attention of Phrenologists.

His Face is large in proportion to the other parts of the body. The forehead is narrow; the eyebrows large, and covered to the nose with dark thick hair; the nose is short, broad, thick, and altogether large; the mouth is rather large, and generally open, and the lips are thick; the beard is fast forming on the upper lip, and about the angles of the mouth; and whiskers on the sides of the face. His voice is very harsh and deep toned. He is deficient in intellectual capacity; he scarcely now begins to talk, and his articulation is very difficult and imperfect. The expression of the face is vacant and forbidding, and he may be described as a "chubbed thick-headed" boy. His temper is rather violent; his appetite great. His general actions and amusements are consistent with his age. Clam illo est sexuum discrimen, interdum autem verâ tentigine tumet mentula.

He was born at Dulwich, near London, where he now resides with his parents; his father is a working gardener.

At the period of his birth he was considered a very small child, and much less than his brothers and sisters. He was always very fretful and cross, but his parents did not perceive any thing singular about him, till the age of seven or eight months, when pubescere gignendi instrumenta cœperunt: which had so increased by the time he had reached his tenth month, as to lead to a suspicion of some peculiarity. When twelve months old, every part of the frame began to grow unusually fast, and the same celerity of growth has continued uniformly up to the present time. He cut three teeth before he had attained the age of three months, and the others appeared very fast afterwards.

Several extraordinary cases of premature puberty in the male and female, are on record. Two instances in males are to be found in the Transactions of the Medical and Chirurgical Society of London; the one by Mr. White, the other by Sir Astley Cooper; and some very curious examples of early child-bearing, are extracted from the works of Mons. Simons and Dr. Dickson, in a paper published in the London Medical and Physical Journal, vol. 24, p. 389.

London, October 18, 1828.

ARTICLE XVIII.

MEDICAL JURISPRUDENCE.

Act for regulating Lunatic Asylums.

At the Michaelmas Quarter Sessions for this county, T. Beale Cooper, Esq. one of the Bench of Magistrates, residing at Bengeworth, was appointed *Physician* to visit quarterly the Asylum at Droitwich, and to receive, for each visit, the sum of ten guineas.

We are ignorant of the causes that could have induced the Magistrates to elect a gentleman to this situation, who resides between twenty and thirty miles from the Asylum, when there are Physicians and Surgeons residing at Worcester, within seven miles of the spot, who would, of course, visit it for a much less consideration than must necessarily be paid to a person residing at a greater distance from it.

We must presume that the superior Medical Qualifications of this gentleman have determined the Magistrates in their decision; as we feel confident, that without some such good reason, they never would have imposed an unnecessary expense upon the county; for we will not for one moment admit, that any private feeling could have influenced their choice.

We cannot, however, refrain from reminding the county, that the pursuits of the gentleman on whom the office has been conferred, have not been of that description which usually ensures high Medical acquirements. We are not aware that he has ever passed through any regular course of Medical Education; and we do not believe that he possesses any Diploma, excepting one from St. Andrew's or Aberdeen.

We are ourselves induced to regard the talents of the worthy gentleman, which are no doubt great, as having been more employed in forensic than in Medical affairs; for he has long been one of the most active of the bench. At any rate, this blending of the two offices of Magistrate and inspecting Physician, seems to us contrary to the spirit of the act; and we do not hesitate to record our conviction, that should its provisions in every instance be fulfilled in a similar manner, much of the benefit that was expected to accrue from the act will be lost.

ARTICLE XIX.

PAROCHIAL RETURNS of Births, Marriages, and Burials, that have been registered in the several Parishes of the City and Suburbs of Worcester, including those of the several congregations who dissent from the Established Church, between the 1st of June and the 1st of September, 1828.

Births, 280; Marriages, 105; Burials, 134.

The great majority of Births, compared with the Burials, appears extraordinary; we can, however, vouch for the accuracy of the statement, as obtained from the authenticated records.

The number of Marriages appears also considerable; this may, probably, in some measure, be owing to the people from the country availing themselves occasionally of the privacy of a Town Marriage.

NOTICES AND ACKNOWLEDGMENTS.

In answer to Mr. Addison's request, that the Editors of the Midland Reporter would give him their opinion on his proposed plan of establishing a Laboratory for the preparation of Artificial Mineral Waters at Malvern; they wish to observe, that they fully concur with him in all he has advanced in his circular letter respecting the many advantages that Malvern offers for their correct preparation and successful application. Both Brande and Faraday, after repeated examinations of the Artificial Waters that have been already established, admit the accuracy of the imitation even in some of those Waters whose combinations are particularly complex. Should Mr. Addison feel inclined to make the experiment at Malvern, the Editors heartily wish him success.

Dr. Darwall's concluding Observations on the Health of the Inhabitants of Birmingham; Dr. Streeten's Report of the Worcester Dispensary; Mr. Martin Ricketts' Report on Vaccination and Epidemic Small Pox, in Droitwich; Mr. S. J. Stratford's Case of Fœtal Monstrosity, (with a Plate); Mr. Waldron's Case of Mollities Ossium; Mr. Hill's Report of the Diseases prevalent amongst the Poor of the City of Worcester; and the Rev. Mr. Lowe's Remarks on the Population of Hallow, will appear in our next Number.

The remaining part of Dr. Hastings' Paper on the Signs of Pulmonary Tubercles, is postponed for want of room, but will appear in the Third Number.

A Communication from Dr. Newell, of Cheltenham, has just been received.

The Third Number will be published on the 1st of February, 1829; and the succeeding Numbers Quarterly.

All Letters and Communications addressed, free of expense, (under cover,) to the Editors, at the Office of the Worcester Journal, will receive immediate attention.

THE MIDLAND

Medical & Surgical Reporter,

AND

TOPOGRAPHICAL AND STATISTICAL JOURNAL.

HOMO, NATURÆ MINISTER ET INTERPRES, TANTUM FACIT ET INTELLIGIT, QUANTUM, DE NATURÆ ORDINE, RE VEL MENTE OBSERVAVERIT; NEC AMPLIUS SCIT, AUT POTEST.—BACON, NOVUM ORGANUM.

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OBSERVATIONS ON ENGLISH HOSPITALS.

BY J. K. WALKER, M. D. HUDDERSFIELD.

WHEN the expediency of erecting an Infirmary in the town of Huddersfield was first agitated, we were impeded in the very threshold of our undertaking, by a want of proper precedents to guide us in correctly estimating the proper scale of expenditure, which might at once be coadequate with the resources of the district, and the wants of the sick poor. By the aid of documents collected from every part of the kingdom, we were enabled to overcome this difficulty, and, at the same time, to remove those scruples which had existed in the minds of many individuals, who before doubted the practicability of our project. The following cursory review of some of the principal Hospitals in England, is submitted, in the hope that some information may be gleaned, which may prove as useful to others as it did to us.

It is impossible to rise from the perusal of so many annual reports of cured and relieved, among the sick poor in every part of the empire, without feelings of gratitude to the Fountain of Mercy, that we live in an age and in a country, where the fruits of Christianity are so practically illustrated. In vain do we search the splendid pages of Pagan History for the record of Institutions so fraught with relief to human suffering, as these receptacles of disease, or of actions that will bear a comparison with these simple details of mercy, with which we are now periodically furnished. Had our country no other claims to the admiration of mankind, her Hospitals, raised and supported by Public Charity, would entitle her to the praise of this and succeeding ages. They stand at once conspicuous as trophies of

Christian Charity, and as the best monuments of our country's glory. Great, however, as is the sphere of their utility, the time is now arrived, when the Public, as well as the Profession, have a right to look to them as sanctuaries of science as well as sorrow. It is impossible not to see that the future progress of our art is in no inconsiderable degree interwoven with the right administration of our Public Hospitals, provincial as well as metropolitan. How much good has been effected by the publication of interesting cases in many foreign Hospitals, and in some of our own, has already been seen. It is the practice, we know, of almost all the Public Hospitals in Paris, to present a quarterly report of the diseases, which is usually inserted in some of the Medical Journals. The Dublin Hospital Reports have sent forth to the world many valuable communications, which have enriched the science of Medicine, and enhanced the reputation of individuals. The same plan, too, obtains in many of the American Hospitals. With these successful examples before us, let us hope that ere long, a practice so beneficial will be universally adopted in this country. Your columns have already been opened to some excellent communications of Hospital cases, and every friend to the Profession must entertain a wish, that while the Metropolitan Journals offer a ready insertion of cases occurring in our Metropolitan Hospitals, our Provincial Institutions may obtain a similar facility through the medium of your Provincial Journal.

The present is an important era in our profession. Let every Institution for the relief of the sick poor, contribute its contingent to the general stock, and soon we shall see a body of authentic facts amassed, which will at least have the merit of truth to usher them to professional notice, and which may be referred to as documents which may defy scepticism. Every one knows that recorded cases of private practice are less valuable, inasmuch as they are apt to receive more or less of false colouring from the feelings of the writer; but the best security against misrepresentation in Hospital Reports, is, that the cases recorded are seen and examined by all the Medical Officers of the Institution, each of whom is a guarantee for the fidelity of his colleague. Besides, the facility of obtaining post mortem inspections, is so much greater in the one case than in the other. There is reason to believe that the prejudices of the public in this respect are on the decline. It is proved from the evidence of several witnesses, examined before the Parliamentary Committee on Anatomy, that "in those Parish Infirmaries where the bodies of those who die are examined, as the practise has become common, it has been viewed with less jealousy; that in those Hospitals where a similar rule prevails, neither patients themselves are deterred from applying for admission, nor their relatives on their behalf."

One source of superiority which some Foreign Hospitals possess over us, is the little difficulty they have to encounter in post mortem examinations. In the Parisian Hospitals bodies may be examined after death, to ascertain the nature of the disease. But

the administration of the Hospitals in Paris, since the period of the Revolution, is confided to a Public Board of Management, and not, as in England, under the control of a Committee, elected out of the body of Subscribers. It cannot be denied that as Schools of Medicine, the Foreign Hospitals offer a strong temptation to British Students, in the superior facilities they present, not simply in the prosecution of anatomical studies, but in the free access to their wards, at an expense trivial, when compared with that incurred in obtaining admission to our own Institutions. It becomes us to bear this in mind, and though the system of our continental neighbours is never likely to be adopted in this country, yet it should teach us a lesson to refrain from all vexatious restrictions.*

The dark ages of our Profession are past. Already, in some of the larger provincial towns, Schools of Medicine are forming, which, if conducted on a liberal principle, may eventually become no mean rivals of our great Metropolitan Schools.† I am not prepared to say how far the conversion of our large Infirmaries, (such as those in Manchester, Liverpool, Birmingham, &c.) into Clinical schools for a considerable number of students, may meet with the sanction of the subscribers to those Institutions. It has been urged that the comfort of the patients would be less, especially of those operated upon within their walls; that the skill or composure of the operator would not be promoted by such public exhibitions. And it cannot be denied that there is much reason to fear, that many patients would forego the benefits of such Institutions, rather than submit to such exposures. Such a system, therefore, to be successful, must be gradually and cautiously introduced, so as to offer no violence to the feelings of the Patients, nor give any umbrage to the supporters of these receptacles of affliction.

Having premised these cursory remarks, I shall proceed to the more immediate object of this paper, and call the attention of your readers, first, to the earlier Institutions, following no other precedency than the era of their erection.

* To this cause we may attribute the more advanced stage of Morbid Pathology among our Continental brethren. But has the lesson so learned, impressed a corresponding efficacy in their treatment of diseases? I have before me some Hospital Reports from l'Hôtel Dieu, which state that of the Acute diseases during the past quarter, about a fifth proved fatal; and of the Chronic diseases, the rate of mortality was rather more than one in four, Of 160 admissions into Laennec's wards, during one quarter, in the Hospital La Charité, the mortality was 29, rather less than a fifth part; but in 23 cases of severe Fever, only 2 died. This, perhaps, arises from the inertness of French practise, which succeeded better in Fevers, where less interference is required than in the Phlegmasiæ. These results, however, it must be allowed, afford no very flattering testimony of the superiority of French practice, and nothing that should induce our Students to cross the Channel to learn the Therapeutic part of our Profession.

† It has already been remarked, that among the Candidates who present themselves for examination at Apothecaries' Hall, there are none who acquit themselves with greater credit, than the pupils of the Manchester school.

On a review of the dates of these Charities, it is remarkable that the greater part of them have no higher origin than the last century. It is true, indeed, that what were called Hospitals or Alms Houses, set apart for the relief of poor persons afflicted with Leprosy, who were cut off from society by that loathsome disease, were common in every part of the island, in the tenth and eleventh centuries. Indeed, nearly 15,000 such Hospitals were erected through Christendom, for the sole purpose of maintaining and relieving such poor persons as laboured under this malady.

It appears, however, that within the two succeeding centuries, its violence had so far abated, that the revenues of these Hospitals were frequently abused, and people feigned themselves to be Lepers, to qualify themselves for the benefits offered by these receptacles. This abuse occasioned their gradual suppression in England, as well as other countries, where their revenues were appropriated to other purposes.*

Before the dissolution of religious houses, the sick poor were relieved by the numerous Monasteries in every part of the kingdom, many of which had their appropriate apartments for the sick poor, as well as endowments for their support.

When the Reformation brought to light the enormous abuses of monachism, and consigned to destruction the whole of these religious edifices, it involved in the same ruin, the benefits, as well as vices, of these establishments. Great interest was used for the preservation of three or four houses in every county, to be converted into Hospitals for the relief of the poor, but the tide of prejudice was too strong to admit of proper discrimination.

The force of habit had so long associated receptacles of disease and poverty, with monastic edifices, that for a long period, no new Institutions were founded to supply the wants of the sick poor. St Bartholomew's Hospital, for the relief of the sick and lame poor, (founded by Rayere, in the year 1102, as an appendage to the Priory), was one of the few that survived the sweeping destruction that befel monastic establishments, and was bequeathed as a death-bed gift by Henry VIII. to the city of London, in 1547. It subsequently fell into decay, and was rebuilt and enlarged by voluntary subscriptions, and charitable donations,

* On the site of St. James' Palace, anciently stood the Hospital of St. James. It was founded before the conquest, for the reception of cases of Leprosy. This Hospital admitted only 14 patients, for the support of whom the Charity was endowed with 2 hides of land. At the Reformation, Henry VIII. took possession of this Hospital, and demolished the ancient buildings. The Hospital for Lepers, at St. Giles', was built by Maud, Queen of Henry I.; and another for poor maimed people, at Cripple Gate. The former site of Bedlam Hospital was anciently occupied by a Priory, founded in the year 1247, but in the year 1547, Henry the 8th gave this Hospital to the City, who appropriated it for the reception of Lunatics.

in the year 1730. The expenses* of maintaining this Hospital in the reign of Edward VI. amounted to £795 annually. To meet this expenditure, the revenues arising both from the royal endowment, and the city gift of the same sum, amounted to only £666, leaving a deficiency of £129, which was defrayed by private subscriptions. Four piles were erected in 1729; one of these piles contains a large hall for the resort of the governors at general courts, with the necessary offices; the other three piles contain wards, capable of accommodating more than 420 patients. The returns before me state the number of beds as high as 500, and the total of patients in one year, at 11,127.

The Westminster Hospital was instituted in the year 1719, by subscription. A benefaction of £30, or upwards, or of 3 guineas or more annually, qualifies the donor to become a trustee. In addition to the fund for general purposes, there is also an inalienable capital for the support of incurables. The number of beds in the statement before me, amounts to 120; and the patients, in one year, to 3502.

St. Thomas' Hospital, though erected as it now stands, in the year 1732, was originally founded by Richard, Prior of Bermondsey, in 1213, and surrendered to Henry VIII. in 1538. It was purchased by the mayor and citizens of London, as part of the manor of Southwark, in the reign of Edward VI. and subsequently repaired and enlarged, so as to admit 260 sick poor. This ancient structure, much damaged by time and by fire, was rebuilt by voluntary subscription, in the year 1693. It now consists of four quadrangular courts; in the first are wards for women; in the second, two chapels; in the third, several wards for men: in the fourth, hot and cold baths, a surgery, theatre, &c. The house contains about 18 wards, and 480 beds; and the number of patients annually relieved in one year, was 10,793.†

Guy's Hospital (as is well known,) owes its name to its benevolent founder, who took a lease of a piece of ground belonging to St. Thomas' Hospital, for the term of 999 years, at a ground rent of £30 per annum, and there erected this Hospital, in 1724, at an expense of £18,793. The sum he left to endow it was £219,499 and upwards. Since the decease of the founder, the Governors have taken a lease of an additional spot of ground, for which, with the former, they annually pay to St. Thomas' Hospital, the sum of £100. It contains 13 wards, and 411 beds; and the number of patients, (in and out,) for one year, were 20,000.

St. George's Hospital was instituted in 1733. The qualification for a Governor, is £5. 5s. as an annual subscription, or £50 as a single benefaction. The number of beds were 220; and the patients, in one year, 4049. To this Hospital is annexed another

* Among the articles enumerated, we find diet for 100 patients, rated at 2d. per day; Coal, 16s. per load; Juniper Ashes to buck their cloths; and money given to the patients at their departure, in one year, £60.

† Vide Mr. Cross' statement of the Metropolitan Hospitals.

Institution, denominated "The Charity for Convalescents of St. George's Hospital," established in the year 1809.

The London Hospital was founded iu 1740. The number of beds is about 200, and of its wards, 18; but it would, if necessary, contain nearly 400. Benefactors of 30 guineas, or more, or annual subscribers of 5 guineas, are Governors; and every Governor is entitled to send one in-patient at a time, and four out-patients. Subscribers, that are not Governors, may send out-patients. The Samaritan Society was instituted in 1791, as an appendage to this Hospital, for the relief of that species of distress not within the provision of public Hospitals.

The Middlesex Hospital for the sick and lame, was founded in 1745; and for patients afflicted with cancer, in 1792. The qualification for a Governor, is an annual subscription of 3 guineas; and of a Governor for life, 30 guineas. The number of beds were about 200, and the total of patients for one year, 5472.

The general economy of all these Institutions, and the rules and regulations by which they are governed, are so similar and so familiar to your readers, that it would be superfluous to enumerate them here. We see that in the Metropolitan Hospitals alone, there are annually relieved little less than 70,000 objects, and, if to these are added the patients admitted at the different Dispensaries, (nearly 20 in number,) where else will you find so large a mass of sick poor, relieved principally by the *munificence of private individuals?*

Who will contend that the materials of improvement are wanting to our Medical Students in the Schools of the Metropolis, were a different mode of discipline adopted? Already, some of the officers of the Dispensary, seeing the little provision made for Clinical instruction in the public Hospitals, have adopted the polyclinic system, very general over Germany, and at some of the Foreign Universities.* The number of home-patients admitted in the different Dispensaries, who require to be frequently visited at their own houses, is so great, as in the opinion of many, to provide a more efficient field of improvement to the Student, than any attendance in the public Hospitals under their present regulations. The time is now arrived when these abuses call aloud for redress, unless the Professors of our Metropolitan Schools of Medicine and Surgery, are content to yield the palm to foreigners, or owe to corporate regulations what might be theirs by choice; for it is from no lack of able Lecturers in our Capital that this evil has arisen, but from the multiplied difficul-

* In the 10 Hospitals in Paris, Clinical schools are established, and attention is paid to the classification of diseases, each Hospital being set apart for a particular class of diseases. The subject of Clinical education has already been brought before the public, in the pamphlet published by Dr. Clark, who, by his long residence in Italy, and his travels on the contiaent, was eminently qualified for the task. The conductors of the London University might derive some useful information, in regulating the system of Medical Education to be pursued in their infant institution, from this excellent pamphlet.

ties and inadequate accommodations that meet the Student through every gradation of his pupilage.

But as the object of this paper is merely a short historical relation of the origin and present state of English Hospitals, I shall forego any further observations on these interesting topics, satisfied that the attention of the Profession is already alive to the necessity of timely interference.

Among the earlier Provincial Hospitals established in this country, the Bristol, Winchester, York, Exeter and Cambridge, stand conspicuous; and the other large towns soon after followed the example. In most of the earlier structures, various alterations have been made at different times, in the number or size of the wards; in the warming and ventilation, or other improvements, which it is not possible to enumerate within the limits of the present paper. In stating, too, the number of patients and expenditure, it should be remembered that no two years are alike in this respect, and that the facts here detailed apply only to one year, and that, not always the last. With respect to the number and size of the wards, it has been the practise of most of the more modern Infirmaries, to prefer small wards to large ones, which were less adapted to the classification of the cases. Examples of each will occur in the course of the following details.

The Bristol Infirmary,* one of the earliest Provincial Institutions, was established in 1735, and is a noble monument of the munificence of the inhabitants, by the voluntary subscriptions of whom it is chiefly supported. There are fifteen wards, seven for medical and eight for surgical cases, and each of the former receives 13 patients, so that, although occupied by more than 90 individuals, no inconvenience can arise from any crowding or improper accumulation of any kind. The total number of beds in both medical and surgical wards, exceeds 200. The number of in-patients in one year, is nearly 1800; and out-patients, nearly 4000; and the annual expense, per bed, about £26.

A County Hospital was established in Hampshire, at Winchester, as early as 1736. The building consists of a centre, and two wings; and, in 1824, contained nearly 80 beds. The number of in and out-patients, in one year, exceeded 1300. The annual expense, per bed, about £28.

The Hospital for the relief of the diseased poor in the county of York, was instituted in the year 1740; and the present public edifice was erected for that purpose, as soon as the charitable fund would allow of that expense. It was, for many years, the only Institution of that nature north of the Trent. The great utility of this Hospital, procured it such liberal benefactions, that though at first the lower wards only could be opened, in a few years the upper wards also were fitted up for use; so that in the whole, the number of beds for men was increased to 29,

* Vide Dr. Chisholm's Statistical account of Bristol.—Edinburgh Medical Journal, vol. 13.

and the same number for women. Every person who is a benefactor of £20, or a subscriber of 2 guineas annually, is a Governor, and is entitled to recommend one out-patient, or one in-patient at a time. The total number of in and out-patients, in one year, amounts to nearly 900. Two fever wards have been erected in the garden of the Hospital, by a separate fund raised for the purpose. There are also more than 2000 patients annually relieved at the York Dispensary.

The Exeter Infirmary was erected in 1741, at an expense of about £6000, and is supported by annual subscriptions. The annual number of in and out-patients, amounts to nearly 1700. The annual expense, per bed, about £23.

The Salop Infirmary was formed in 1745. It is situated on the verge of an eminence, and commands every advantage of salubrious air and delightful prospect.* There are nearly 90 beds, and the annual number of in and out-patients, exceeds 2600.

The Hospital, at Cambridge, was founded by John Addenbrooke, (from whom it derives its name,) in the year 1740, and who left about £4000 to erect and maintain a small Physical Hospital; but the money being insufficient for the support of it, an act of Parliament was obtained to make it a General Hospital. It was opened at Michaelmas, 1766, and the number of patients annually cured and relieved, is, upon an average, 1000. The expenses, of late years, have been about £1700 per annum, of which sum about £600 arises from the permanent funds, and the remainder from the voluntary contributions of the public. Two wings have lately been erected and furnished, at an expense of nearly £4000, which are now open for the reception of patients. Benefactors of 20 guineas, or upwards, are Governors for life; annual subscribers of 2 guineas, or upwards, are Governors during payment.

Fearful of having already encroached too largely on your useful pages, I shall defer the insertion of the remaining Provincial Hospitals to a future occasion.

* This Infirmary has, of late, been found so incommodious, that a new Building is being erected on the original site; to accomplish which, a munificent Subscription has been entered into by the Gentlemen of the County and City.—EDITORS.

ARTICLE II.

Observations on the MEDICAL TOPOGRAPHY *of* BIRMINGHAM, *and the* HEALTH *of the* INHABITANTS.

BY JOHN DARWALL, M. D.

Physician to the Birmingham Dispensary.

[CONTINUED FROM PAGE 112.]

WITH respect to the treatment of Fever in Birmingham, I should say that it rarely admits, and still more rarely requires, very active treatment. Bleeding has of late years been most strenuously recommended, and to be practised when no evident symptom demands it. "It is a Fever, therefore bleed," seems to be the rule. To such a practise, however, my limited experience affords no sanction. I am free to allow, that there are many cases of the disorder, as it occurs in this country, which seem to be completely cut short by bleeding; there are others, however, which not only are not prevented, but are even aggravated by the practise; some attention to this point has led me to the following conclusion:—that in the very first stage of Fever, while the pulse is moderately strong and scarcely accelerated, when there is head-ache, heat of skin, and general langour, bleeding is generally extremely beneficial; but when once the pulse has faltered; when, however full, it is soft and very compressible, bleeding almost invariably is mischievous. I would also say, that relapses, after much depletion, are almost always fatal; the strength of the constitution seems so much reduced as to be unable to rally. Hæmorrhage from the bowels is sometimes very profuse; in all the cases which have occurred to me, it has appeared to be critical, and, if not unduly interfered with, the patients have done well.

Passing onwards from Fever, which (though in a severe form exceedingly rare,) attacks all classes, whatever their employment; I proceed to a consideration of those diseases, which appear to be most prevalent in this populous neighbourhood. Many of these will, however, require but a very cursory notice. The consequences of sedentary occupations have been frequently remarked, nor do they present any peculiarities in Birmingham, worthy of observation. It may, however, be stated, that the evils resulting from such habits of life, are in proportion to the mental excitability of the individuals, and are, of course, cœteris paribus, most marked in those who unite mental exertion with a long continued sendentary posture. Shoe-makers, as also some other mechanics, are liable to very severe pains in the stomach, in addition to the general feelings of indigestion and debility, and this seems attributable to the position in which they hold their work.

The employments, however, which are most serious in their consequences to the workman, are those in which there is a great abundance of fine dust perpetually floating through the air. Many years ago, Dr. Johnstone, of Worcester, remarked the effects of this cause upon the needle-grinders of Redditch, and though this is by far the most injurious occupation which the mechanics of this district pursue, similar evils are, in a less degree, manifest in many other trades. The principal of these are the ivory, pearl, and bone turners, in whom Chronic, and even Acute Bronchitis are remarkably prevalent. Between the disease as prevailing among grinders, and among the ivory and bone turners, considerable difference exists in the chance of recovery. When once the grinders are attacked with inflammatory action in the Bronchial tubes, the progress is continual from bad to worse; and though, perhaps, in some degree, for a time it may be suspended, so far as my own experience goes, the suspension endures but a very short time. Such is not, however, by any means the case with the other class of artizans whom I have mentioned; for with them complete recovery frequently ensues, particularly if the individuals have been men of temperate habits, and have not again resumed their employments. The temperate or intemperate habits of the individual, appear, indeed, to have a very powerful effect in this disease, and may probably, in some measure, serve to account for the difference in the result, accordingly as the one or the other class of workmen are the subjects of attack. Of these, generally speaking, the grinders are certainly the least careful in their modes of life. Their occupation is proverbially dangerous, their wages are consequently high, and their temptations great. Whether any thing is to be referred to the particles in the one case being metallic, and in the other of an animal nature, is not very easily to be decided; something may, perhaps, be attributed to this also.

In suggesting the remedy of evils like these, very much, it is clear, must depend upon the labourers themselves, for there can be no doubt, but that the danger of the most injurious employments is very greatly lessened by continual temperance. It may, however, be noticed, that something also lies with their employers, who, by endeavouring to render the workshops less close and better ventilated, would greatly add to the healthiness of the occupations.

Another class of workmen who are affected by the circumstances of their employments, are those who are continually in high temperatures. The diseases to which these give rise, are rheumatism, and every kind of affection of the lungs, according to the predisposition of individuals. Glass-blowers frequently suffer much from this cause, as also do some of the workmen in japan manufactories. The lacquerers, who are females, also frequently experience considerable inconvenience when they work near stoves.

The comparative healthy appearance, however, of the females occupied in the Birmingham Manufactories, is a frequent subject of remark among strangers, and certainly the consequences of such employment to health, are not so injurious in this place as might be supposed. This may probably be accounted for by the exercise the greater number are compelled to take in passing backwards and forwards to their meals; in part also, doubtless, by the less close state of the workshops than in Manchester, where women are also employed in great numbers, and not less by the open and airy state of their dwellings.

It must not be supposed, however, that females do not suffer in many of the manufactories, or that all are equally healthy. They who are employed in the warehouses only, in packing light goods, fastening gilt toys, etc. to cards, and a variety of other similar occupations, seem to suffer but little; much less, certainly, than milliners, and, perhaps, as little as in any labour of civilized life. But the working females in japan manufactories are very much worse situated, and there can be no doubt that this is one of the most injurious trades in which women are employed. Not, indeed, that it directly induces a fatal malady, as needle-grinding does, but such a state of relaxation of the system, as leaves it open to be immediately acted upon injuriously by external circumstances. The disorders under which these women suffer mostly, are a dyspeptic debilitated state, accompanied with severe pains in the hypochondria, and great mental depression. Leucorrhœa, and this in a very extreme degree, is almost universal among them; and not a few suffer first from menorrhagia, and afterwards, from diminution, or suppression of the Catamenia. The tongue is furred, the bowels are irregular, and the pulse, for the most part, very languid.

The pains in the side are often very troublesome, and extend from some particular point, to the muscles of the shoulders and arm. They are in very many cases relieved by the recumbent posture, and in some the pain is absent during the early part of the day, but again comes on towards the evening. In all, the mental affections are conspicuous. The patients are what are commonly called extremely nervous.

The plan of treatment of such cases is very simple, and much depends upon the patients themselves. Formerly I employed leeches to the affected part, and sometimes they were useful in alleviating the pain, but they never removed it. Equally disappointing also were blisters, when applied immediately to the situation of the pain, and in some instances, they appeared even injurious. General bleeding also has been resorted to, by some practitioners, but always with a mischievous result. The nervous feelings, by any powerfully depleting system, were always aggravated. From the circumstance of the pain being relieved by the recumbent posture, I was led to suspect that the pain might originate from some affection of the spinal chord, or the nerves supplying the part; and with this suspicion, instead of

applying a blister to the situation of the pain, I applied it to the spine itself, and with a very marked benefit. Sometimes the pain never returned after the first blister, but a second has generally succeeded in removing it. Whatever may be thought of the reason of thus placing the blister on the spine in these cases, is to the mere practitioner of little moment. My experience, however, has now too much multiplied, to allow me to doubt the propriety of the practise. Exercise appears to hold an important place in the treatment of all these complaints. The medicine must, of course, be directed according to the peculiar circumstances of each patient. The only other disease which it appears necessary to mention, as depending on the trades of this place, is what is called among the common people, the Shakes, or the Gilders' Palsy. The improved modes of button gilding have made this a much rarer complaint than formerly, and even in the toy gilding, which is still executed with the cap and pan, the improved construction has diminished the evil. Cleanliness, also, in the workmen, of which most of them are very sensible, has great influence in preventing an attack of this disease. Great difference appears to exist in the liability of different persons to be affected by the mercury. Some girls are attacked within six months from commencing the occupation, while others will continue for years, take scarcely any precautions, and yet never suffer. One man has worked forty years, and a great part of the time with the cap and pan, with perfect impunity.

If the individuals are removed from gilding immediately the first symptoms are perceived, the disease gradually subsides; but such persons should never be permitted to resume the employment. If they do, the disease will inevitably return, and in all probability, become incurable.

Pulmonary affections form a very great proportion of the diseases of the lower classes, and, excepting affections of the intestinal canal, are more numerous than any other. From a statement which Mr. Baynham has favoured me with, I am enabled to give a view of the actual number of pulmonary affections in the practise of the Dispensary, for 1816, 1817, and 1818.

In 1816, total number of cases, 1134; Pulmonary diseases, 381, including eighty-six cases of Tubercular Consumption, of which number, fifty died while Dispensary Patients. Of these, forty-eight were females, and thirty-eight only were males. The respective ages of the women were as follows: nine were between 15 and 20 years of age; sixteen, 20 and 30; sixteen, 30 and 40; six, 40 and 50; one, 55. There were forty-two cases of Menorrhagia in this year, and eight cases of severe Leucorrhœa.

In 1817, the whole number of cases was 1349, of these, 528 were males; 821 females. Pulmonary diseases were 304.

In 1818, the total number of patients was 1665. Pulmonary affections were 478.

The result of my own experience among the poor, which has been very extensive, nearly corresponds with that of Mr. Bayn-

ham. In the reports of the diseases of Birmingham, published in the Edinburgh Medical Journal, the proportion varies from one in three or four, to one in ten. The latter, however, was only in the summer, and in very healthy seasons. The most unhealthy months are from December to the end of May.

The only other point which appears worthy of notice, is the longevity of the inhabitants, and upon this point, a list, published by the overseers of the poor, in the year 1822, affords some curious information. The whole number was about 2,700, and of these five hundred and three were between 70 and 80 years of age; one hundred and eleven, 80 and 90; ten, 90 and 100; two above 100; 350 were females; 276 males, being an excess of 74 females above the males.

ARTICLE III.

On the Signs of Pulmonary Tubercles.

BY CHARLES HASTINGS, M. D.

[CONTINUED FROM PAGE 38.]

I concluded the former part of my observations on the Signs of Pulmonary Tubercles, by endeavouring to shew, that in those cases of Phthisis Pulmonalis, that run on rapidly to a fatal termination, and are accompanied by very decided symptoms, as severe cough, difficulty of breathing, quick pulse, and considerable fever, there is usually discovered after death, the strongest proof of previous inflammatory action; whereas the Tuberculous deposition has not proceeded at all to the same comparative extent. The Tubercles, in such circumstances, are often not of any great size, and have seldom coalesced, but are interspersed in the inflamed cellular membrane of the organ. It has been by no means uncommon with me to discover such a state, when the symptoms which usually accompany an attack of continued fever, have been soon followed by those of much pulmonary inflammation, after which Phthisis has supervened. There is also another remarkable feature in these cases, that distinguishes them from Tubercles of slow developement. In the former cases, the Tubercles, instead of being softened, are often surrounded by suppurating cellular tissue, as if the inflammatory affection was most considerable in the parts adjoining these foreign bodies. The following instance seems to confirm the view just taken of this subject, and to elucidate my remarks.

Case VI.—Continued Fever, terminating in Phthisis Pulmonalis.

On November 2nd, 1820, I was consulted respecting a youth, aged twelve years, who, six weeks previous to my visit, had suffered a rather severe febrile attack, from which he had only

partially recovered; for although the feverish symptoms had abated, he had been gradually losing flesh, and was affected with severe cough, and difficulty of breathing, from making very slight exertions. The cough was attended with a copious muco-purulent expectoration. The pulse was much quickened. Ever since the illness began, there had been much difficulty in managing the bowels; they were alternately relaxed and costive. There was tenderness of the abdomen, particularly in the right hypochondriac region. The tongue was much furred, and he occasionally vomited. The urine also was very high coloured.

To subdue these inflammatory symptoms, I repeatedly applied leeches to the surface of the chest, and to the right hypochondrium, and considerable counter-irritation was produced by the antimonial ointment.

General Antiphlogistic measures were likewise advised in the first instance, and afterwards mercurials in alterative doses. These remedies, however, had not the desired effect, for the disease was not in the slightest degree affected by them.

He emaciated rapidly. The cough became more distressing, and the difficulty of breathing urgent. The tenderness of the right Hypochondrium never abated, and, for the last fortnight, he was very much purged. He died early in the month of December.

Examination of the body, 48 hours after death.—The body was emaciated to the last degree.

Thorax.—The pleura every where appeared much inflamed. On the right side of the chest, between the costal and pulmonary pleura, a false membrane, one-eighth of an inch in thickness, was formed.

The cellular structure of the right lung was much altered in appearance. It was much inflamed, and in many parts hepatized. The superior lobe of the organ was studded with small tubercles; the cellular membrane surrounding many of them was in a state of suppuration, but the tubercles had not softened. There was no false membrane on the left side of the thorax, but the pleura covering the lung on this side, bore evident marks of severe inflammation, being very red, and thickened.

The whole of the cellular tissue of the left lung was thickened, and its vessels much congested. It was also throughout studded with small tubercles, none of which had softened.

The mucous membrane of the Bronchia was much inflamed.

Near the division of the Trachea two glands were situated, which had attained nearly the size of walnuts. They contained tuberculous matter, the centre of which had softened.

Abdomen.—There was scarcely any fat in the Omentum.

The peritoneal covering of the liver was of a deeper colour than natural. Some fibrine was deposited on this part, and there were adhesions of recent formation between the diaphragm and the surface of the liver. This organ was also larger than usual. Some parts of its parenchymatous structure were more than usually vascular; but in other respects it was not diseased.

Some of the glands of the Mesentery were considerably enlarged, and very vascular. Several portions of the mucous membrane of the small intestines were inflamed, and some bloody mucus was observed in them.

Observations.—Although, in the above case, many small tubercles were discovered, on dissection, in the cellular membrane of the Lungs, I consider that a great error would be committed, if we attributed the train of pulmonary symptoms that was observed before death, to the existence of these foreign bodies; for it is manifest, that all the three tissues of the Lungs had been affected with severe inflammation, which had produced its usual changes in the structure of the organ. The symptoms, therefore, must be attributed to those changes; and inflammation, not tuberculous degeneration, must be regarded as the cause of death.

New Method of Diagnosis.

It will be remembered, that I commenced these observations, on the Signs of Pulmonary Tubercles, by stating, that those which were afforded prior to the late discoveries of Laennec, were exceedingly uncertain, and frequently productive of error, in many severe affections of the lungs. It strikes me, that the cases that have been adduced, (if any were wanted,) in the former part of this communication, amply prove this assertion. No man, therefore, who fairly considers this subject, can, for one moment, hesitate in coming to the conclusion, that the symptoms alone do not furnish us with data sufficiently certain, to enable us to detect the more occult forms of Tuberculous disease of the Lungs. Have we, then, no artificial means to assist us in this difficulty? Happily, for the present age, so fruitful in useful discoveries,—discoveries that are every year adding to the sum of Human Knowledge, the zealous and indefatigable Laennec has, by the use of the Stethoscope, and Percussion of the Chest, effected much. So much, indeed, that if the efforts of his successors in this inquiry be equally persevering, we may, ere long, expect that our knowledge of these affections will become much more exact than our predecessors ventured ever to suppose would happen.

In bringing before the reader this branch of the inquiry, it is my intention, as in the foregoing observations, to illustrate my remarks by appropriate cases; and, it appears to me, that I shall be enabled to adduce some as obscure in their symptoms, as those formerly related; in which, by the adoption of the means for interrogating nature, pointed out by the illustrious author before quoted, I arrived at much more satisfactory conclusions respecting the nature of the disease; conclusions so certain, indeed, as to enable me, in the most positive manner, to predict the changes that had taken place in the structure of the lungs; and these predictions were most accurately fulfilled.

In respect of Tuberculous Phthisis, M. Laennec considers he has, by means of the cylinder, discovered a true pathognomonic

sign. The only sign that can be regarded as certain; to this he has given the name Pectoriloquism.

He first observed this phenomenon in a woman, who was affected with slight catarrh. In applying the cylinder below the middle of the right clavicle, whilst she was speaking, her voice seemed to come directly from the chest, and to reach the ear through the central canal of the instrument. This peculiar phenomenon was confined to a space about an inch square. This circumstance induced M. Laennec to examine several other patients under similar circumstances, and he detected a similar phenomenon in several other cases. The subsequent death in the Hospital of the greater number of the individuals who had exhibited this phenomenon, enabled him to ascertain, that in every case, excavations existed in the Lungs of various sizes, produced by the dissolution of tubercles, which communicated with the bronchia, by openings of different diameters.

Laennec, in the first edition of his work, declared, that in more than two hundred phthisical patients, whom he had opened, after having ascertained their state by means of the cylinder, he had not failed, in one instance, to find ulcerated cavities in a point of the Lungs, where he had found evident pectoriloquism; and, as in most of these patients, he observed it in several points; he possessed, in regard to this circumstance, some hundred of positive observations, and not one negative. On the other hand, he had never met with pulmonary excavations communicating with the bronchia, in a person whom he had examined completely, for a series of days, without detecting pectoriloquism. In two or three cases only, in subjects which he had thoroughly examined, though but for a few times, and in which there was no pectoriloquism, had he found, on dissection, excavations of greater or less extent. But in these cases, the cavities were either nearly filled with tuberculous matter, or communicated with the Bronchia by very small openings.

One great claim which this mode of investigating diseases of the Lungs possesses to our consideration, is the facility that it gives us of discovering tuberculous excavations, in cases where no characteristic symptoms of phthisis exist. In some of such cases we may often observe, after having made this discovery, the gradual development of phthisical symptoms, till they at last reach that point when their nature cannot be misunderstood; but in others, as before evinced, the disease sometimes proceeds to a fatal termination, without ever exemplifying any such symptoms. In these, therefore, the only sign of the disease being seated in the Lungs, is afforded by mediate auscultation.

Case VII.—Excavations in the Lungs, without any attendant symptoms, discovered by the Stethoscope.

In January, 1824, I was consulted by a woman aged 22, in consequence of her having been, for some time, unequal to her ordinary exertions. Her appearance was that of health, and she

was rather remarkable for stoutness. She principally complained of uneasy sensations at the epigastrium, and in the right hypochondrium. The bowels were very irregular; for some time previously she had experienced much difficulty in keeping them sufficiently open. The tongue was furred; pulse 80. In addition to these symptoms, there was a slight cough, which was scarcely regarded, as it was not accompanied with expectoration, or tightness of breathing. She had, for three months, been gradually falling into bad health, during which period the catamenia had not appeared. She could give no other account of her illness, than that she had been more confined than ordinary to her employment as a domestic servant.

On examination with the stethoscope, there was discovered for some distance below the clavicle, on the right side of the chest, Pectoriloquism; at first, I doubted, as the symptoms were so very trivial, whether this observation could be correct; but on several subsequent examinations, I found this to be a constant occurrence. On the left side of the chest, there was not discovered the usual respiratory murmur, for some distance below the clavicle. It appeared, therefore, notwithstanding the very quiet state of the symptoms, to be very probable that the mischief done to the lungs was too great to be remedied, and that the constitution must sink under it. I advised two setons to be placed in the integuments of the chest, directed the diet to consist of milk and light meats, and prescribed an alterative plan of treatment, viz.; two grains of Blue Pill every other night, and decoction of Sarsaparilla three times a day.

In about six weeks after I first saw this young woman, she began to emaciate, and the cough became rather troublesome. She was also affected with evening fever, and a slight disposition to sweat in a morning. These symptoms were shortly followed by the most strongly marked hectic paroxysms, and by very copious purulent expectoration. The case now presented the usual characters which commonly occur in the last stage of Tuberculous Phthisis; and the young woman only survived until the latter end of the month of May.

Dissection.—The Marasmus had proceeded nearly to the last degree. The Head was not examined.

The Larynx was not diseased. The Mucous Membrane lining the trachea and bronchia was red, and some small ash-coloured ulcerations were observed in the windpipe.

Chest.—When the sternum was removed, we found the superior lobe of each lung united by cellular adhesions to the costal pleura. The other parts of the lungs were free from unnatural adhesions.

The right lung presented, in its superior lobe, a very large tuberculous cavity, communicating with the bronchia, and with other cavities of a smaller size. These several cavities all contained more or less of ill-conditioned purulent matter. They were lined with false membranes, the inner surface of which was soft

and yellow, but that applied to the pulmonary tissue was of a much firmer consistence. In the other lobes of this lung several smaller tubercles were also detected; but there were no cavities in these parts. The pulmonary tissue itself was, for the most part, hepatized.

The upper lobe of the left lung was not so much diseased as the right, but there was in it a cavity of some size, which communicated with the bronchia by a very small aperture. In the other lobe there were many miliary tubercles interspersed throughout the cellular tissue. This lung also was hepatized.

The Heart was healthy.

Abdomen.—The mucous membrane of the stomach was very red, but there was no ulceration apparent. The same preternatural redness was observable in the smaller intestines. The mucous membrane of the colon was, in some places, slightly ulcerated. The mesenteric glands were rather enlarged.

Case VIII.

Not long after the occurrence of the foregoing instance of tuberculous disease of the Lungs, I was consulted about a young man, aged 18, who had been, for eighteen months antecedent, complaining of abdominal pains and costiveness. He had, during this time, emaciated very considerably, and had gradually become so weak, as with difficulty to exert himself to walk even a short distance, without fatigue. His countenance was ghastly, and his eyes were of a glassy appearance. The pulse was 120. The tongue rather red, and he was thirsty. The abdomen was rather full and tender to the touch. He told me that his hands were always hot in the evening, and that he was restless in the early part of the night, but that towards morning the skin became moist, and he then slept more undisturbedly. To my questions relative to the state of the respiratory organs, he replied that he had not, during his illness, been affected with cough, neither had that been the case at any period of his life. He did not find in walking, although he allowed himself to be very weak, that his breathing was at all hurried. As there was not enough in the existing symptoms to explain the progressive weakness and emaciation, I proposed examining his chest with the Stethoscope, to which he readily assented. The respiratory murmur on the right side of the chest was nearly natural; there was, however, some degree of rattle in the superior part of the chest. I could not any where detect pectoriloquism. On the left side I immediately detected the gurgling rattle above the left mamma, and also nearer the clavicle. Between the third and fourth rib pectoriloquism was very decidedly perceptible, and this, by several examinations, I proved to be an undeviating occurrence. I therefore pronounced that there was a tuberculous cavity in the superior lobe of the left lung, which communicated with the bronchia. There was now no difficulty in explaining the gradual emaciation and weakness, which had previously been inexplicable

from the state of the abdominal symptoms alone. The certainty of the information thus obtained, enabled me to point out with confidence to the friends of the youth, the almost necessary fatality which was attached to such a state of the lung, and I explained to them that destruction of life must, at no distant interval, ensue.

This interesting young man did not, for two weeks, display any alteration of importance, but about that time he was affected with much sickness at stomach, and vomited, frequently during the day, some bilious matter. The belly also swelled, and was more painful on pressure. On this account, some leeches and a blister were applied to the abdomen, and these symptoms were relieved. Soon afterwards, he was affected with slight cough, and some catching in his breath. He also more rapidly lost flesh and strength. A slight expectoration of pus-like matter now came on, and at night he was distressingly hot from fever. He died two months after I first saw him, the feebleness having at length become so extreme, as to render it impossible for him to move from the recumbent posture.

Examination of the body, 24 hours after death.—The body was in the last degree of emaciation. The abdomen much discoloured; not so any other part of the body. There was serous infiltration of the integuments of the ankles, but not of any other part.

Abdomen.—On dividing the integuments of the abdomen, we found the intestines in every part agglutinated together, and to the peritoneal lining of the abdominal muscles. These adhesions were all firm, and had evidently existed a considerable time. There were several tubercles, some as large as a hazel nut, dispersed about the peritonæum. The Liver was enlarged, and the colour was much lighter than natural. The mesenteric glands were, in many parts, enlarged. The mucous membrane of the stomach did not appear unhealthy.

The mucous membrane of the small intestines was thinner than natural, and there were some ulcerations of a small size corresponding in situation with tubercles on the peritoneal surface of the intestines.

Thorax—The right sac of the Pleura contained about four ounces of sero-sanguinolent fluid, but there was no adhesion of the pleura. In the superior lobe of the right Lung, there were found several cheesy tubercles, but none of them were in a very soft state, and no cavity was formed.

In the left sac of the pleura, there was about as much fluid as in the right. There was considerable adhesion of the superior lobe of the Lung to the Ribs. In this lobe of the left Lung there was one large tuberculous cavity which communicated with the bronchia, and some other cavities of a smaller size. In these cavities there was found softened tuberculous matter; the cavities were lined by a soft membrane. The inferior lobe of the Lung contained many tubercles. There was no thickening of the cellular membrane of this lung, nor any sanguinolent or serous effusion into it.

The Larynx and Trachea were free from disease, but the latter contained some quantity of softened tuberculous matter. There was the same kind of matter in the bronchia of the left lung, and some considerable portions of mucus in the bronchia of the right lung. The Heart was healthy.

Observations.—The reader, it appears to me, cannot fail to be gratified with the certainty of the information derived in the two last cases from the use of the Cylinder, particularly when he compares them with cases 1, 2, 3, 4, and 5,* which were of a similar nature; but in these, from the imperfection of the means employed to discover the nature of the affection, death seized its victim, ere I could determine what important organ was the seat of the disease, or what the nature of this disease was; whereas, in cases 7 and 8, although equally obscure when judged of by the natural signs alone; I was enabled, with the utmost confidence, to state the opinion I had formed of the nature of the destructive process which was advancing to the extinction of life; and the event, in each instance, justified my predictions. These are the most striking examples that have occurred to me since I employed the Instrument, and as they occurred during my early trials of it, they were of much value, not only in impressing my mind with the conviction of the important aid to be derived from this artificial mode of interrogating nature, but also in keeping me watchful and suspicious of disordered Lungs, in all lingering affections, accompanied with emaciation. These, however, although the most striking, form but a small portion of the examples in which Pectoriloquism has enabled me, in doubtful cases, to form a decided opinion of the nature of certain affections of the Lungs. It would be irksome to enter into very long detail of many of these, but I shall select three more examples on this head.

Case IX.—Excavations of the Lungs. Pulmonary Fistula. Pectoriloquism. Metallic Tinkling.

Charles North, aged 21, was an out-patient of the Worcester Infirmary, and evidently in a sinking state, from disease of the Lungs. He was sitting up in bed when I saw him, being unable to lie down. The countenance was much distressed. He had been ill many weeks, and was emaciated to the last degree.

I distinctly heard, when I examined him with the Cylinder, Pectoriloquism below the clavicle, on the right side of the thorax. I also discovered Metallic Tinkling for some distance in the space between the scapula and the spine, on the same side.

I could not discover Pectoriloquism in any part of the left side of the chest.

In this instance I predicted that there was an excavation in the right Lung, and also a communication between fluid in the sac of the Pleura and the Bronchia, and that the man could not live many hours. The patient died during the following night.

Dissection.—Both the right and left Lung were found pretty generally hepatized. There were, however, no excavations found

* Midland Medical and Surgical Reporter, No. I. pp. 27, et seq.

in the left lung. But there were three or four excavations in the superior and middle lobes of the right lung. When the Sternum was elevated to examine the Lungs, a considerable quantity of gas escaped. We observed, also, three or four pints of sero-purulent fluid in the right sac of the pleura. The Pleura itself had the appearance of having been much inflamed. It was for the most part, covered with a thick layer of fibrine. In some parts, it was one quarter of an inch in thickness. There was a fistulous opening in the pulmonary pleura on this side, which communicated with one of the tuberculous excavations in the superior lobe of this Lung, and also with the Bronchia.

The Heart was small, but healthy.

The Abdominal Viscera were not diseased.

Case X.—Tuberculous Excavations. Pectoriloquism.

H. M. aged 22, had long been a patient of the Worcester Infirmary, with severe cough, and copious expectoration. There was much hurry of breathing from walking up an ascent, and he emaciated. In the evening he was feverish, and the pulse was then 110. By an examination with the Cylinder, I found that Pectoriloquism was very distinct over the anterior superior part of the right side of the Chest, and repeated trials proved this observation to be correct.

There was also imperfect Pectoriloquism in the same part, on the left side of the Chest. I concluded that there were several excavations nearly empty in the superior lobe of the left Lung, and also that there were imperfectly formed cavities in the superior lobe of the left Lung.

The patient died in about a week after my last examination.

Dissection.—There were several excavations of a large size in the right Lung, which communicated freely with each other, and with the Bronchia. In fact, nearly the whole of the superior lobe of this organ was destroyed, and empty cavities only remained. The other lobes of the Lung were also in a tuberculated state, but excavations were not then formed.

The left Lung likewise was very much diseased; many tubercles were contained in its cellular structure. Many of these in the superior lobe had softened, and partial excavations were formed.

Case XI.—Tuberculous Excavations. Pectoriloquism.

E. B. aged 22, was made a patient of the Worcester Infirmary, on the 17th of August, 1822. She complained of great pain in the head, and was very deaf. The eyesight was also rather affected. She had a very severe cough, with copious expectoration of purulent mucus. There was Dyspnœa, Anorexia, and pain and tenderness in the Epigastric region. The bowels were costive; tongue loaded; the face was flushed; the skin was heated; and the pulse 96. She had been ill with cough for two months, and there had been blood expectorated within the last week.

On the left side of the Chest an unusually dull sound was produced by percussion. When the Cylinder was applied to the same part, a mucous rattle, instead of the ordinary respiratory murmur, was heard.

On the right side of the Chest, Percussion produced a natural sound, and by the Cylinder, a healthy respiratory murmur was discovered.

From this examination, I inferred that some irreparable mischief was done to the left Lung; the respiratory murmur being entirely extinct. The right Lung, however, still seemed capable of performing its office.

The patient was bled, and a Blister was applied to the chest. A grain of Calomel was ordered to be taken every night, and fifteen drops of Tincture of Digitalis three times a day. It would be useless to occupy the attention of the reader by a relation of the daily reports of the state of this patient.

I may observe, that from the time of admission to the 6th of September, she rather improved in general health; but the cough and expectoration continued. She was bled three times during the above period, with evident relief of the head-ache, and general fever. The Calomel, also, at this time, had greatly affected the gums. It was consequently omitted.

Three times between the 6th and 18th of September, this patient was examined by the cylinder, and at each examination a mucous rattle was heard over the whole of the anterior part of the left side of the chest. The respiratory murmur on the right side was nearly natural.

On the 18th of September, the mucous rattle was still heard by the cylinder, over the whole of the left side of the chest, and imperfect pectoriloquism was detected immediately above the left breast.

There was also some degree of mucous rattle discovered by this examination, on the right side of the chest. The inference from this examination was, that a cavity was forming in the left lung, and that some destructive change was taking place in the right lung.

On the 7th of October, there was much pain over the Abdomen, with great tenderness on pressure. The legs were swollen. The face was flushed. The cough was very troublesome. The expectoration was diminished. The Pulse 120. There was a very dull sound by Percussion of the left side of the Chest, but there was a natural sound on the right side.

The cylinder discovered a mucous rattle on the left side of the chest, and Pectoriloquism above the left breast. There was also imperfect Pectoriloquism on the right side of the chest, and also a mucous rattle. I concluded, therefore, that a large cavity was formed in the left lung, and that tuberculous matter was finding its way from portions of the right lung into the bronchia. The patient died on the 20th of October.

Dissection.—There was about a pint of serum in each sac of the pleura. The superior lobe of the left lung was adhering to the ribs. In other parts, the pleura covering the left lung was covered with a layer of glutinous lymph, but there was no adhesion. The pleura was rather thickened. The left lung, likewise, adhered to the diaphragm.

The mucous membrane lining the trachea and bronchia was very red, and somewhat thickened, but it was not ulcerated.

In the superior lobe of the left lung there was a large ulcerous cavity, formed by the softening and discharge of tubercles. There was also, contiguous to this, another cavity of a smaller size. Both of these cavities communicated with the bronchia.

The middle and inferior lobes of this Lung were thickly studded with tubercles, which rendered it almost impermeable to air. Those portions of the Lung not filled with tubercles, were of a dark colour, and harder than usual. In the superior lobe of the right Lung, many tubercles were found in a softened state, and in some instances partial cavities had been formed by the tuberculous matter having found its way into the bronchia.

The middle and inferior lobes of this Lung did not contain many tubercles, but the cellular tissue of the organ was partially hepatized.

The Heart was empty; its texture was flabby; in other respects it was healthy.

The Liver and Mesenteric Glands were considerably diseased.

It must, I think, be conceded, that I have, in the examples related, succeeded in evincing, that the Cylinder often materially assists our diagnosis, and enables us, on the evidence of Pectoriloquism, to pronounce that Tuberculous excavations are present in the Lungs, at a time when no natural signs point to that affection; and that this instrument, by the same evidence, Pectoriloquism, often confirms the opinion formed, from the natural signs when they exist.

We will now proceed to a different class of facts, but such as appear to be as curious and as deeply interesting to the Medical Philosopher, as those before adduced, for by them we shall be enabled to prove that the Cylinder sometimes corrects the error that may be caused, and often has been caused, by the severity of the symptoms indicating pulmonic affection of a very dangerous kind; at the same time that the real mischief in the organ is of a much less serious nature than in other cases, when few, or even no peculiar, symptoms of pulmonary disease, arise.

Case XII.—Loss of Voice; quick Pulse; severe Cough; copious, thick, offensive Expectoration, terminating favourably.

The first of these which I shall adduce, is that of M. F. who was received into the Worcester Infirmary on the 29th of July, 1826. She had been, for some time, ill with cough, loss of voice, and difficulty of breathing. Her appearance was that of a deli-

cate person. The complexion was very fair, and the hair approached to red. The symptoms had come on gradually, and were not assigned to any peculiar cause. She had been bled two or three times before admission, and a blister had been applied to the front of the thorax. Notwithstanding the length of illness which was said to have been of some weeks' duration, there did not seem to be much emaciation. She complained about the upper part of the thorax, and the cough came on in paroxysms of much severity. The face readily flushed, and there was night perspiration. Pulse 120, and hard; tongue loaded; bowels regular. Catamenia had come on as usual. She was bled from the arm, and a blister of a large size was applied over the chest. One drop of Prussic Acid was given three times a day, in Camphor Mixture, and three grains of Extract of Poppy every night. The bowels were directed to be kept open by Castor Oil.

On the 4th of August, there was no abatement of the symptoms. The cough was, indeed, worse, and a more copious and thicker expectoration had come on. In addition to this she was afflicted with the most distressing head-ache. Pulse 84; tongue furred. Number of respirations, 24 in a minute. She could take a deep inspiration without pain. Both sides of the chest sounded tolerably well on percussion. By the Stethoscope the respiratory murmur was distinguished on each side, and there was no pectoriloquism.

She was now ordered a pill of Calomel and Cathartic Extract every night; and every four hours one-third of a grain of Tartar Emetic, half a drachm of Syrup of Poppies, and an ounce of Decoction of Barley. Tartar Emetic Ointment was also directed to be applied to the chest.

On the 9th she was not better, although the eruption from the ointment was very considerable. Ten ounces of blood were taken from the arm.

On the 13th she was rather better, and expressed herself much relieved for a short time, from the loss of blood. The blood was not buffed. The bleeding was repeated, and she continued her medicine.

On the 15th, twelve Leeches were applied to the Epigastrium.

On the 19th, the cough was very deep and hollow. The expectoration was diminished. There was much mucous discharge from the nostrils. A large blister was placed under each clavicle. I directed one grain of Blue Pill, and eight grains of Extract of Hemlock, twice a day. The Antimonial Mixture was omitted, and the Prussic Acid Draught of the 4th repeated.

On the 26th, the cough still violent, and in paroxysms. Severe head-ache; pulse 80; respirations 27; tongue furred. By the Stethoscope, respiratory murmur puerile for some distance below each clavicle, but indistinct lower than the mammæ. No pectoriloquism. Expectoration, of a green colour, and offensive in smell, increased in quantity. She omitted the Prussic Acid, and took the Antimonial Draught. The pills were repeated.

The cupping glass was applied to the chest, and eight ounces of blood drawn.

Sept. 4.—Pectoral symptoms no better. Voice more indistinct than when admitted. Expectoration more offensive, and more purulent in appearance. Continue mixture.

16.—The cough worse, and expectoration more copious. The matter very offensive. Pulse 104. Repeat the cupping and apply a blister. Continue mixture.

20.—Respirations 54; pulse 110. Respiratory murmur is very distinct on the upper part of each side of the chest, but indistinct below the mammæ. There is a mucous rattle. Pectoriloquism not distinguished. Expectoration very copious, of a greenish cast, thick, and very offensive. She has not lost much flesh. The Tartar Emetic Ointment was again applied freely to the chest. Continue mixture.

30.—The Tartar Emetic Ointment has produced a very full effect. The cough is not so troublesome. The expectoration is very copious, offensive, thick, and of a green colour. The hoarseness continues. Respirations 26; pulse 72; skin cool. By the Stethoscope, respiratory murmur very distinct below the clavicles, for some distance; very indistinct below the mammæ. Pectoriloquism absent. The Prussic Acid Draught was substituted for the Antimonial Mixture, and the Pills were repeated.

Oct. 4.—Very severe head-ache. Pain in the chest. Expectoration as before. Pulse 92; respirations 30. Is very hoarse, and is become very weak. Six Leeches directed to the throat, and afterwards a Blister to be applied. Continue the Prussic Acid.

10.—The hoarseness not relieved. The cough diminished. The expectoration not less copious, very thick, and of a greenish yellow colour, exceedingly offensive. Pulse 78; respirations 32; head-ache. She omitted the Prussic Acid, and took three times a day, ten grains of Extract of Hemlock, ten drops of Diluted Sulphuric Acid, and one ounce of Mint Water. Leeches and a Blister were also applied to the back of the neck.

17.—The dose of the Extract of Hemlock was increased to 15 grains, and Leeches and a Blister were applied to the right side.

From the 17th of Oct. to the 18th of Nov. this patient rather improved, inasmuch as she did not emaciate; the cough became less frequent, and the expectoration not so copious, nor so offensive; but the voice continued as weak, and there was a degree of wheezing almost amounting to shrillness in the respiration.

Nov. 18.—She again coughs more frequently, and is more hoarse, and there is considerable wheezing in respiration. There is a very shrill sound heard when the Stethoscope is placed over the upper part of the windpipe. The respiratory murmur is natural over the chest, and pectoriloquism is not detected. Eighteen Leeches to the windpipe, and the part to be afterwards rubbed with the Tartar Emetic Ointment.

On the 6th of Dec. the appearances are altogether more favourable. She speaks better, and there is not so much shrillness in breathing. The cough continues troublesome, but the expectoration has much abated. Pectoriloquism cannot be discovered, and the respiratory murmur is now heard more distinctly below the mammæ. Let a Seton be placed immediately below each clavicle. The Hemlock Draught to be continued.

June, 1827.—My patient left the Infirmary, in the latter end of last December, since which her health has continued to improve very materially. She has now no cough, or scarcely any. Her voice has returned, and she is enabled to pursue her employment as a domestic servant.

Observations.—It would be needless, by dwelling on the history of the foregoing case, to point out the assistance which was derived in the diagnosis from the use of the Stethoscope. It is sufficient to observe, that almost all the usual symptoms of extensive destruction of the substance of the Lungs, were present; so much so, indeed, that in the worst cases of tuberculous excavations, I have never seen matter of a worse kind to the eye, or which, to the nose, was more offensive. Its specific gravity was also so great, that it invariably sank in water. The respiration, too, was, for a length of time, very quick, and the pulse about 120. Yet during the whole of this time, what was the conclusion to be drawn from the evidence afforded by the Stethoscope? Most assuredly that instrument did not lead us to expect that there was any disruption of the structure of the Lungs, that there were many tubercles, or that the Lungs were in any considerable degree hepatized. In fact, it told us that the mischief was much less formidable than the symptoms seemed to indicate. The event proved the correctness of this information, and vindicated its claim of high value, as a means of diagnosis in tuberculous consumption.

Case XIII.

The next case is that of a gentleman between 60 and 70 years of age, who consulted me three years ago, in consequence of a severe cough and asthmatic breathing, with very copious expectoration and great emaciation. He had several times during the four previous months, been attacked with hæmoptysis, though not to any great extent. To these untoward symptoms had succeeded purulent expectoration and quick pulse, with hectic fever. So strongly were the symptoms indicative of tuberculous mischief, that he was supposed by his medical attendant to be fast sinking into the grave. I examined him with care by the Stethoscope, and could not discover any thing like pectoriloquism. The respiratory murmur was heard not indistinctly over the chest, but a mucous rattle was in many parts perceptible. This encouraged me with hope that the destruction of the Lungs was not so great as the symptoms seemed to indicate, and I ventured to tell the patient's friends that such was the conclusion to which I came.

The event justified my anticipations, for by quiet management, by local blood-letting, Blisters, and the use of Colchicum, with mild alterative doses of Mercurial Pill, this gentleman so far recovered, as to, in a great measure, resume his usual habits during the ensuing summer.

He nevertheless relapsed the next year, but I could not then detect any thing like pectoriloquism, or any evidence of tuberculous mischief; and the same plans which before had restored him, were again instrumental in bringing him round to a tolerable state of health.

During the spring of last year, he again experienced a severe attack of Pulmonary Inflammation. I had not, however, on this occasion, any opportunity of minutely ascertaining the state of things by the Stethoscope; but the result of the examination of the body, for he died of the attack, sufficiently justifies the diagnosis which the instrument led me to form in his previous illnesses.

Examination of Mr. G. 48 hours after death.—There was considerable emaciation, though not to the last degree. Scarcely any fat on the integuments of the thorax. The muscles were of a bright pinky colour.

The mediastinum very firmly adhered to the sternum.

The right Lung, throughout its whole extent, closely adhering to the ribs, the mediastinum and the diaphragm. The same observation may be also made of the left Lung. There was great difficulty in removing the lungs from the thorax, and in doing so, each lung was torn, and pus escaped into each cavity.

The trachea was healthy, and so were the large bronchial cells.

When the right Lung was cut into, it was found to be a mass of suppurating small tubercles; there was no large cavity, but every where this lung presented the appearance, when cut into, of matter gushing from all parts, as from a full sponge. The cellular structure had not at all the natural feel, but when the matter was pressed out, it felt knotty, apparently from numerous small tubercles; these were readily broken down into a pulp when pressed between the thumb and finger. Towards the edge of the Lungs there were some larger and rather harder tubercles. The left Lung was not quite so much diseased. Its upper lobe apparently had received air, but the structure here was of a very dark blackish colour. The inferior lobe of this Lung was full of tubercles, and when it was cut into, great quantity of bloody sanious fluid escaped.

The Heart and all its vessels were in a remarkably healthy state.

Abdomen.—The Liver was rather hard and small. The lobes were flattened, and rather shorter than usual, giving very much the appearance of having been forced into this unusual shape by pressure anteriorly. The stomach and intestines were healthy.

I shall only adduce another fact illustrative of the question now under discussion; as it appears to me that the foregoing instances satisfactorily shew, that many obscure affections of the

Lungs may be rendered clear by the aid of auscultation and percussion.

Case XIV.—Pleuritis. Empyema, giving the symptoms of Tuberculous Consumption, very much relieved.

July 9, 1825.—M. L. aged 25, was affected with cough, dyspnœa, copious muco-purulent expectoration, night sweats, and pain in the left side. She was very much emaciated. The feet were always cold. Catamenia regular; bowels costive; pulse 108; tongue furred.

Two months before, some purple spots had come out on her lower extremities, which soon disappeared. The symptoms above described then began to appear, and she had been, during the whole time, growing thinner. The night sweats were very considerable. She was ordered three grains of Calomel at bed time, and a spoonful of Castor Oil the following morning. Eight Leeches were applied to the left side, and afterwards a Blister.

10.—No better. By percussion, there was a sensible difference in the sound on the right and left side of the thorax. On the latter the sound was much more dull than on the former. There was likewise much soreness on that side, in the spaces between the ribs. No respiratory murmur heard on the left side, excepting immediately under the clavicles. The respiratory murmur was puerile, nearly over the whole of the right side. The action of the heart was not felt in its usual situation, but more to the right side.

The result of this examination, though it proved that much mischief had taken place, led me to expect that it was not of a tuberculous nature; for in the first place, the right lung seemed to be quite sound; and on the left side, the indications, from the Stethoscope and percussion, were, that the seat of inflammatory action was the Pleura. Therefore, notwithstanding the formidable aspect of the symptoms, and the certainty that considerable alteration of structure had taken place in the serous membrane lining the left side of the chest, I did not view the case so despairingly as if I had proved that tuberculous excavations had been produced in the cellular tissue of the lung. The Leeches were accordingly repeated to the side, and she took some Cathartic Medicine.

15.—Cough better. Not so much dyspnœa, but she complained of palpitation. The action of the heart was now felt, and heard more on the left side. That side also sounded more on percussion, and there was no soreness in the intercostal spaces. The respiratory murmur was now heard on the left side, as low as the mamma; very indistinctly below it, and accompanied with a humming noise. On the right side of the chest the respiratory murmur was very distinctly heard, and that part sounded well on percussion. She repeated the Leeches and Blister to the left side.

27.—There had been more cough, and a rather copious expectoration. Action of the heart again felt more on the right side. She was subject to palpitations, with faintness. There was also heat of skin in the evening. She complained also of numbness and weakness of the left arm. Pulse 100, not hard. The respiratory murmur was heard on the upper part of the left side of the chest, but not on the lower part. Respiratory murmur distinct on the right side. A large seton was inserted in the left side, and she was directed to take ten drops of Laudanum, with some Sulphuric Æther and Camphor Mixture, whenever the palpitation came on; and three times a day the Mint Julep, to check the excessive perspiration.

During the month of August, there was not much alteration in the symptoms. The pulse continued quick; the dyspnœa distressing; the night sweats considerable; and the evening paroxysms of fever, accompanied by palpitation, very harassing. The same plan was continued. The seton discharged copiously, and the bowels were kept open.

Early in the month of September, there was an evident amendment in her health. All the pectoral symptoms were better, and she felt stronger. The appetite was very good. The heart was still felt on the right side. She began to gain flesh.

Sep. 11.—The respiratory murmur could be heard very distinctly on the left side, and the sound, on percussion, was nearly natural. The respiratory murmur was puerile on the right side.

25.—She had manifestly gained a good deal of flesh and strength. She had lost her cough, and was in all respects much better. From this time I lost sight of her.

Such, then, is the nature of the evidence from which I have been led to the conclusion, that the Cylinder, which was first employed by the celebrated Laennec, is of high importance in assisting us to distinguish the diseases which arise within the cavity of the Chest, from each other. But it is very far from being my conviction, that the difficulties which present themselves in investigating these obscure affections, are yet likely to be removed. Many intricate questions remain to be solved, and the darkness of the pathology of these diseases is yet to be illuminated.

ARTICLE IV.

Description and Analysis of a Mineral Spring, *near Dudley, Worcestershire.*

BY G. MALE, M. D.

Physician to the G neral Hospital, Birmingham.

In the Medico-Topographical account of the county of Worcester, which ushers in the Midland Medical and Surgical Reporter, but little notice is taken of the valuable Mineral Springs with which the County abounds. I am aware that a promise is given that the subject shall not be neglected, but become the subject of another paper. In the mean time, without anticipating the labours of the able writer of that detail, I beg leave to give you some account of a Mineral Spring, which being situated in a remote spot at the utmost verge of the County, is probably unknown to him, and but little known to the Profession in this neighbourhood, although it promises to be one of considerable value. In a Topographical survey of Birmingham and its environs, which appeared in the Medical Repository about ten years ago, no notice was taken of it, although it contained a full and accurate account of the neighbourhood.

In a Wood, in the township of Cradley, near the town of Dudley, arises a Spring of Salt Water, thus described by Dr. Plott, in his History of Staffordshire. "In Pensnett Chase, south of Dudley about a mile and a half, is a weak brine belonging to the Right Hon. Edward, Lord Ward, of which his Lordship once attempted to make Salt, but the brine proving too weak, he thought fit to desist, although possibly it might have been advanced to profit by the art of tunnelling, much used in Cheshire to keep out the freshes."

Greater part of what was Pensnett Chase, (long since inclosed,) is in the County of Stafford, but this Well, I believe, is in Worcestershire, though I do not find it mentioned by Nash in his History of that County.

In 1799, Lord Viscount Dudley and Ward made a similar attempt to manufacture Salt, but soon relinquished it, on account of the weakness of the brine, and its admixture with other salts. The year previous to this last trial, an Analysis of the Spring was made by the late Mr. Keir, at that time one of the most eminent Chemists in this neighbourhood, with a view of establishing Salt Works here. This Analysis, made in the infancy of Chemical Science, is as follows: "four gallons and a half of the water contain only $4\frac{1}{2}$ ounces of common Salt, and 3 of another kind of Salt, which I found to consist of Lime, dissolved by Marine Acid; this latter is perfectly useless, and would be an impediment to the working of the Salt Spring." As a brine for the Manufacture of Salt, it is obviously useless, as that at Droitwich is infinitely stronger, purer, and more abundant; so much so, indeed, as to be equal to the supply of the whole kingdom if requisite. About the same time, Dr. George Pearson made an

Analysis, which is as follows. "From the trials I have made with it, I should have no doubt it contains a good deal of Magnesia, united to Muriatic Acid, and also a Muriate of Soda or common Salt, which are the two predominant impregnations. It also contains a large proportion of Calcareous Earth, and a little Carbonic Acid, but no Metallic Matter,* nor, which is surprising, any Vitriolic Salts."

I conclude with a more recent, and, I believe, much more correct Analysis of this powerful water. The specific gravity of the water at 60°, is 1018. A wine gallon, or 231 inches, (including the water of crystallization,) contains

Common Salt,	grains	917.7
Muriate of Lime,	——	338.4
——— Magnesia,	——	222.08
——— Iron,	——	47.55
Carbonic Acid Gas,	cubic inches	23.735
Green Oxide of Iron, dissolved by Carbonic Acid,	grains	6.22
Azotic Gas,	cubic inches	12.1
Silica, or Earth of Flints,	grains	0.75
Sulphate of Lime,	——	0.5

Its chemical composition shews it to be a Spring of great value in Scrofula and Cutaneous Diseases, both as an internal and external remedy. As an internal remedy, it would probably, in many cases be superior to Sea Water, on account of its containing Muriate of Lime and Iron, and from the circumstance of its being situated at a great distance from the sea, it is an important acquisition to the neighbourhood, and might be rendered of great value. From this analysis, it appears that one gallon of this Water contains near four ounces and a quarter of earthy and saline matter. By way of comparison, I give you the saline contents of *a pint* of Sea Water, according to the late Dr. Murray.

Common Salt,	grains	159.3
Muriate of Magnesia,	——	35.5
Muriate of Lime,	——	5.7
Sulphate of Soda,	——	35.6
		226.1

The Moffat Water, deservedly celebrated for the cure of Scrofulous complaints, and much resorted to for that purpose by our Northern neighbours, contains, according to Dr. Thompson,†

Sulphuretted Hydrogen Gas,	cubic inches	21.290
Common Salt,	grains	176.569
Sulphate of Soda,	——	16.562
Sulphate of Lime,	——	11.579
Sulphate of Magnesia,	——	5.474
		210.184
Specific gravity,	——	1.00255

* Obviously an error, as proved by the ferruginous deposition on the stones over which it flows.

† Glasgow Medical Journal, May, 1828.

By comparing the solid ingredients of Cradley Spring with Sea Water, and the well-known efficacious Water of Moffat, it is evident that we are possessed of a remedy of no mean value. Numbers of the Inhabitants of Dudley and its neighbourhood have been for a series of years in the habit of using the Water in cases of Scrofula and Strumous Swelling of the Glands, Indigestion, Constipation, diseases of the Skin, Worms, Jaundice, and Bilious diseases.

The Spring yields about eight gallons an hour, and has very strong purgative qualities, in which particular it greatly exceeds either Leamington or Cheltenham Waters. The late Lord Dudley erected a bath, which is supplied by this Water, but the remote situation, the vicinity of collieries, badness of roads, and deficiency of convenience, will, for ever, prevent this being a fashionable place of resort, although it is by no means improbable that when suitable accommodation is afforded, it will, at no very distant period, be a place of refuge for the afflicted.

My opinion of the value of this Water, is not speculative ; its analysis is demonstrative of the fact, and its virtues are known to the Medical practitioners in Dudley. I trust that this imperfect introduction of the subject to the notice of the public, will induce some of them, who, by their local situation, have the means of observing its effects in the cure of diseases, to step forward, and give to the Profession the result of their practical information on this subject. I am not altogether devoid of experience of the medical virtues of this Spring, having sent several poor persons to avail themselves of them ; but in general, their limited means, and the inconvenience of leaving home for a sufficient length of time, have prevented the result being perfectly conclusive ; for one young woman who was some years since grievously affected with Scrofula, I raised a subscription sufficient for her board and lodging at a public house in the vicinity of the Spring, for some months, and I have never known either the Sea Coast, or any other remedy, productive of so much benefit in so short a time ; the Strumous Glands subsided, the Sores healed, and she is now perfectly healthy, and, I believe, has had no return of her complaint.

ARTICLE V.

The Chronology of Physiognomy. Translated from Sheerman Hackell's History of the Pseudo-Sciences, vol. vii. 4to. Ed.

Quid? Socratem nonne legimus, quemadmodum notarit Zopyrus Physiognomon. qui se profitebatur hominum mores, naturasque ex corpore, oculis, vultu, FRONTE pernoscere? Stupidum esse Socratem dixit et barbum, quod jugula concava non haberet! Cic. de Fato. Cap. v.

Physiognomy is the art of determining the extent, existence, and present state of the mental faculties and operations, from the structure, appearance, or changes, of the external parts of the body. Those who have accompanied me with docile, reader-like patience through the preceding volumes of this necessarily extensive work, will not now require to be told that, both in the true and false Sciences, φυσις means *nature:* for Philosophers of all arms, as our gay neighbours of France word it, would fain be thought to have nature on their side, and have therefore twisted her sacred name into every vile rope of sand which they have spun from their barren and bewildered intellects; to them, indeed, and to the credulous, an Ariadne's clue in her mysterious labyrinths; but to common sense or ordinary judgment, more brittle than those gossamer threads, which their prototype, the spider, laboriously manufactures from its own entrails. As to the *—gnomy*, that, indeed, is not so common in the Pseudo-Sciences—but it means knowing, from γνωμι *cognoscere*, q. d. know me, *Angl.*

Physiognomy, like most of the Sciences of which we treat, has some foundation. It is quite true that not only men, but animals can, and frequently do, judge rightly of the presence of certain passions in others, by the *modifications* of the muscles and other soft moveable parts which constitute the human countenance, and particularly by the expression of the eye. These, however, can be imitated by design, which constitutes the pleasing illusion of the Theatre; by chance, which every moment gives rise to mistakes—and by hereditary resemblance, or mal-conformation. Think, then, courteous reader, what must be the uncertainty of the other numerous sources of Physiognomical divination, which have no foundation at all; which originate in fancy, are fostered by imposture, and fatten on credulity? We shall reserve the consideration of this point, however, as well as the great moral question, whether to the present universal contempt of their professors, some public ignominy, *the gibbet, the gallows, or the pillory*, should not be superadded, *abominandi testimonio*, as Ulpian hath it, until we shall have discharged our duty as scientific antiquarians, in tracing the gradual progress

of the art. And here, in those long and wearisome references to the musty archives of the science, those relentless expilations of the folio dullness of ancient days, those infinite explorations of unreadable, pot-hook, faded, lacerated, worm-eaten, dusty MSS. I am sure the Christian reader will pardon me, if I save his eyes and my own stomach the horror of marginal notes. I rather appeal to the general good faith, the research and judgment displayed in the preceding volumes; to the tone of veracity, (though I would not willingly be thought to praise myself,) that pervades what I am about to deliver, and to that great collateral confirmation of the fidelity of all historians, namely, the experience and reading of the person appealed to. And as the Roman historian has told us that the first origin of all things is wrapt in fable, proper allowance will necessarily be made in Physiognomy also, for the scanty literature of the Antediluvian and heroic ages, even where I seem to borrow from sources not entitled to implicit confidence.

Chronology of Physiognomy.

Anno mundi I.—Third Saturday. This day Adam and Eve were created.—Adam observed the latter setting her cap at him about an hour afterwards. Thought she looked *kind* and *knowing*, and as it is well understood by every reader of the Talmud, that Adam was a profound philosopher, and consequently an anatomist, he entered the following note in his pocket book, or else in the tablet of his memory, from whence, I believe, Mr. Milton, the English *historian* of Paradise had it.

"Just now Mrs. Eve looks killing. I suppose she means to play off some of Mr. Lambkin's airs upon me, but I'll be even with her. The whole trick, I see, depends upon relaxing the muscles of the cheek; slightly drawing up the risory muscles, throwing a moderate degree of tension and smoothness into the forehead, and twirling the superior oblique as you list. So, Madam Eve, I shall know the signs of good-nature and fondling again, without book." This is the most ancient Physiognomical observation on record. Value it as ye ought, ye degenerate Palmisters and Phrenologists of these guilty times!

Monday, September 29, year I.—Adam observed the same appearance in Eve. Did not call it a phenomenon, there being no credit to be had in those days for knowing a smattering of Greek. Was surprised, too, to find, that when Eve looked kind, it was not always a sign of affection on her part, but merely an effort to make him feel happy with the thoughts of it. But Adam was an honest Philosopher, and for *his* experience in the world, a wonderfully sensible man; and he set down among his memorandums, "Must not always expect to be able to judge of mind from matter—was egregiously deceived to-day by assuming this

—hope none of my numerous posterity will be so foolish."*

N. B.—The above seems indisputably the first instance of a Physiognomist acknowledging his mistake—a tardiness always to be observed in those that make many—and after much research, I believe I may venture to place upon the page of history, that it is also the last.

Monday, October 6, year 1.—Adam and Eve now out of Eden. In the short period of three days, Adam added to his physiognomical science, the signs of *regret*, *despair*, *fear*, *resentment*, *forgiveness*, *consolation*; which, however, he afterwards discovered to be every one of them imitable, and that in order to judge of their present value as signs, he must now take into his estimate, the newly originated motive *of self-gratification*. From this application of his judgment, the venerable father of mankind afterwards derived much advantage in his intercourse with his progeny.

August 3, A. M. 129.—Cain slew Abel at the Altar.—"Then, for the first time," says Professor Currycombe of the Phrenological chair of Altdorf, then "was the horrid glare of the eye, the grinning close-set teeth, the expanded nostril of the malignant murderer beheld among men: and then first were all the phases of *envy*, *hate*, *rage*, *guilt*, and *consciousness of being the object of universal abhorrence*, displayed in the countenance of our unhappy race." The miserable wanderer, says Josephus, (Ant. l. 1. c. 2) afterwards added to the atrocity of fratricide, the *guilt* of *fraud*, *injustice*, *violence*, and *distrust*; and thus a large and evil increase was obtained of the Physiognomical tokens of human thought.

N. B.—I have been able to meet with no records, except those furnished by Mr. Milton, of the discovery of the numerous Physiognomical expressions relating to *love* and *friendship*; his statements, it is my duty to mention, have but too much the air of poetry, and smell but little of the time-honoured evidence of the *codex*. Yet, seeing that I admit, with him, the acuteness and talent of our first ancestor, and the actual existence of a courtship and marriage between him and Eve, a circumstance which always comprehends the most sincere of friendships, I feel satisfied that however Mr. Milton came by his information, he is right in the main, and that the parent of mankind may be safely considered the discoverer of the signs of the social affections. (See the tenth table entitled Love-Signs, at the end of this volume.)

It is thus that the natural signs of mental emotions become known to all interested as soon as expressed: even to the dog who watches our steps. But the more complex expressions of

* Note by the Editors.—We are seriously angry with Sir Walter Raleigh for omitting these interesting particulars in his operose History of the World, in which he spends so many sheets in ascertaining the Site of Paradise; but utterly enraged against the compilers of the Universal History, for thus allowing their German coadjutors to conceal from them, historical facts so well known in that country. They must confess they had room enough in 20 volumes.

attitude, gesture, feature, form, colour, moles, cranial protuberances, palmar lines, &c. require a more advanced stage of society, and a more imaginative theorizing head, than we have any reason to believe, was ever supported upon the shoulders of an Antediluvian. We shall see, in the progress of our Chronicle, that the veracious Greeks were the genuine inventors of this division of Physiognomical Science.

Anno Mundi. 2756.—Calchas, the priest of the Greeks, at the Siege of Troy, the annalist of the expedition, and secretly in the interest of Achilles, *(vide* Dares Phrygius and Dictys Cretensis, two eye-witnesses, *passim,)* observed how well the general appearance of Thersites corresponded with his scurrilous pestering disposition. Except palmistry, the origin of all the other branches of the pseudo-science of which we are now treating, may be found in the notice he has left of this buffoon, copied, without the least acknowledgment, by the poet Homer. I am unwilling to seem prolix, but I must again repeat that protest I have so often reiterated above, against this ungentlemanlike plagiarism, so universal among the poets. How easy would it have been for the above poet, for instance, in his preface to the Speech of Thersites, to have premised

"From Calchas' notes, in chapter twenty-three,
I quote, dear reader, what ensues, for thee."

But the morality of poets is still in a wretched state! Thersites it seems was "loquacissimus, qui verborum animo suo et scurrilium multorum erat peritus, quicquid ridiculum Achivis fore existimavit, optimis prompte dicturus. Strabo erat, claudusque altero pede; et ipsius humeri curvi in pectus contracti, at superne acutus erat capite (veneramini, lectores, craniologiæ primordia!) capillamentum vero rarum sparsum erat supra." Here you have the Physiognomy of aspect, of attitude, of cranial prominence: but only see what a disgraceful paraphrase Mr. Alexander Pope, another filching poet, has made of the above characteristic, which, unwilling to insult the ladies with Greek, I have given in the Latin.

"Thersites only clamoured in the throng,
Loquacious, loud, and turbulent of tongue;
Awed by no shame, by no respect controlled,
In scandal busy, and reproaches bold,
With witless malice studious to defame,
Scorn all his joy, and laughter all his aim.—
—His figure such as might his soul proclaim,
One eye was blinking and one leg was lame;
His mountain-shoulders half his breast o'erspread,
Thin hairs bestrewed his long mis-shapen head."

Every scholar will acknowledge the infidelity of this translation: it *might* make a picture of more than one writer in the Edinburgh Phrenological Journal—but brings home to the mind no resemblance of a man, that dared, ὃ κατα κοσμον ερίζεμεναι βασιλευσιν: the Thersites of Pope is a crouching creature. It must be con-

fessed, however, that the Phrenology of Calchas is bad; for a *caput superne acutum*, that is to say, developed upwards, indicated *comparison*, (30) *benevolence*, (13) *veneration* (14) *firmness*, (18) *self-esteem*, (10) *inhabitiveness* (3). Can any thing be more stupid than this old Belwether of a Greek priest, and his rhyming plagiarist? I hope no sensible man will ever think of putting *their* hallucinations in competition with the scientific triangulations, and profound craniodesiack distribution of the Phrenologists of the Edinburgh School; who have so far, and so fancifully surpassed their masters, and our countrymen, Gall and Spurzheim, in nice proportionate adjustment of forms and regions. Unshackled by the trammels of comparative Anatomy, they have boldly soared in the ethereal concave of linear beauty: and knowing, like wily lawyers, as they are not, that where the eye is caught, the heart, and the head, too, must soon follow, they have sagaciously reduced to practice the undeniable principle, that one hypothesis not founded on fact, is just as good as another not founded on fact, and better, if it be more palatable.

Anno Mundi, 3526.—Zopyrus, the Physiognomist, flourished. It was this Philosopher that discovered the signification of moles on the skin, and reduced the bungling Phrenology of Calchas and Homer to a regular system. Besides *Spilology*, or the doctrine of moles, we may learn from the text of our paper, on the authority of Cicero, that he likewise discovered *Ommatology*, or the Physiognomy of the Eyes; *Prosopology*, or the Physiognomy of the Countenance; *Cheiromancy*, or the divination of the Hand; *Somatology*, or the divination of the Trunk; in which, however, he does not appear to have excelled, as may be inferred, from the false conclusion he drew from the shape of the collar bones of the "Godlike Socrates,"—stupidum et bardum esse; that he was a stupid jackass! His Phrenology does not appear to have been amiss, as we learn from Aristotle, who was almost the cotemporary of this great man. The same age producing Alexander the Great, that prince of princes; Aristotle still more, the prince of Philosophers; and Zopyrus, the legitimate prince, prototype, and founder of all Physiognomists, Palmisters, and Phrenologists, which have flourished afterwards, or shall hereafter. This era will ever stand prominent in the history of the world.

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Here a sheet is wanting in the only copy of Professor Hackell's Book we can obtain; containing, no doubt, the progress of Metoposcopy, from the age of Aristotle, during the Roman Empire; and at a later period, upon the revival of letters. The translator dare not attempt to supply it.

Anno Domini, 1796, Dr. Gall, of Germany, arose. This eminent individual possessed, he informs us, a taste for Cranio-

logical observations, which was almost instinctive. He saw that in an age of fact and demonstration, in which men reason before they believe, and often cease to believe when they have reasoned: he says, I say, that the only mode in which Cranioscopy could be brought into tolerable repute, was to cite facts, to demonstrate, to reason, after the legitimate form and manner of the other Sciences. The facts might be of a doubtful authority—the reasoning obscure and subtle—the illustrations none of the most striking: but what had he to do with that? His business, it was evident, was to raise the superstructure; let those pull it down who could or dared! Physiognomy had been extended by Aristotle, to animals, (Hist. Anim. l. 9.) but it was reserved for the genius of Gall to bring comparative Anatomy to the support of its infant offspring, Craniology. That acute person soon perceived that comparative Anatomy, and the structure of the Brain and Nerves, *must* afford a great many phenomena in support of observations deduced from the appearance of the skull, compared with the moral habitudes of human individuals: and he lost no time in reducing his remark to practice, in which he had nothing to do more than most other Pseudo-Philosophers—merely to shut his eyes upon all circumstances unfavourable to his theory. Thus his grandmother's dunghill cock, he tells us, was a good husband, and had a skull most prominent in that region, afterwards marked by the numeral 1°. And as the Doctor saw this same prominence in some persons notorious for a similar propensity, the inference was obvious—that a cranial prominence at this point, is the index of Salacity. His mother's cat, like most cats, had the cranium flat above, and bulging out at the edge of the parietal bone; she was cautious, (Gall knew that a *catty* man, *vir catus*, among the Romans, was a cautious person,) and he found the same projection, (indeed nobody is without it,) in the heads of individuals distinguished for prudence. It was to be concluded then, that this eminence is the seat and index of *prudence* or *caution*. It was easy for an author of less ingenuity than Gall to multiply examples; and it suffices the purposes of Chronology to add, that with the aid of his auxiliary Spurzheim, he soon discovered bumps in man, and bumps in brutes, to the number of 33; in short, with the exception of two small waste regions corresponding to the level of *caution*, on the lateral ridge of the forehead, and which are conjectured to be the double organs of *humbug*, these being no where else discovered, they peopled the whole map of the cranium with organic districts, each signalized by an increase of volume or projection.

It was next to be shewn how these protuberances were produced. Malpighi had demonstrated that the fibres of the spinal marrow followed upwards into the cavity of the skull, diverge from each other into the expansion named the brain, even to the superficial convolutions; as he found in fishes. Aristotle, Galen, Rhazes, Africanus, Albertus Magnus, Willis, and the whole mob of antiquity, had attributed certain mental operations to

certain parts of the brain; for in an age when conjecture passed for philosophy, it only required to be known that thought depended on the brain, to assign the modifications of that thought, to the modifications of that brain: in other words, to ascribe the variations of the function, to the variations in the instrument by which it was produced. Here, then, shone forth the brilliant originality of Gall and Spurzheim. They conceived that the eminences observed on the scull *might* be produced by the more vigorous growth of certain bundles of the radical fibres which spread from the spinal marrow into the brain; and as they had *ascertained*, (a favourite word with them,) the eminences to indicate that specific mental operations were habitual to the possessor, it was impossible not to infer that these individual bundles of fibres were the immediate seat of the operations in question; and that waxing strong by exercise, they pushed out the scull-cap. But the cranial bosses are double; so must the bundles of fibres be; and so must, therefore, be the faculties of the soul; though when acting together, like the two hands, or the two eyes, or the two ears, they produce but one operation.

Here, then, was a theory, *teres atque rotunda*, as smooth and sound as a bottle—and had not the restless spirit of invention prompted them to trump up a lying story about converging fibres which no where exist in the brain; or to provoke the polite, but cold and merciless *exploration* of the French institute, as to some pretended discoveries in the minute anatomy of that organ, intended, no doubt, for side-props to the Doctrine, in the shape of "additional facts;"—the new foundation for the ancient structure of Cranial Physiognomy, might have vegetated as healthfully as any other Pseudo-science. For it would disgrace the impartiality of history, were I here to deny that its founders were well prepared by nature and education for the propagation of a new opinion. They had gone to the bottom of their subject; had read nearly all that ever was written regarding it; were expert anatomists; respectable naturalists; and of no despicable proficiency in their original study of medicine; a trade which, when not over-driven, as was long their case, occasionally affords its professors a peep into the mysteries of human nature. Gall was goodnatured, *naive*—Spurzheim, acute, philosophical; and with all this, they were both masters of that great logical and oratorical rule, which few but lovers and lawyers ever think of;

"Tempus et multitudo quam pondus verborum plus sæpe pollet."

"Be long and loud—the mob will think you right,
When wire-drawn nonsense fags its purblind sight."

DONNE.

In short they knew that the dubious argument is often made to appear the better, by dint of mere fatigue in the auditor; and upon this principle deluged Europe with every form and shape of announcement—now furbishing up a quarto, and now adorn-

ing the lid of a snuff-box: to-day figuring in the shape of a memoir read before the Imperial institute—to-morrow breaking forth in the snowy radiance of an alabaster cast, divided, *secundum artem*, into departments: the local habitation of the *faculties* of immortal mind.

Anno Domini, 1817.—This æra is hailed by our western neighbours, the Scotch, (orig. Schottlanders), as that which transferred the glory of the recent discoveries in Phrenology, from Germany to Scotland; and, as a true citizen of Germany, I congratulate them with all my heart and soul. It is but right that the country of *Law* and of *Lauder*, should have its heroes in the sister imposture of Phrenology; and dear honest *(rechtschaffene?)* Germany, the land of integrity, and simple manners, rejoices that she is freed, for once, of an imputation to which she is oftener subjected, from the enthusiasm, than the knavery, of her sons. She breathes no wish to enrol among her tutelaries, the three graces of Caledonia. It was at this period that Dr. Spurzheim, like another apostle, arrived in their capital, Edinburgh; and, by the melody of his tones, the mystery of his subject, and the strength of his arguments, (or lungs,) brought over a number of law whigs, who have since instituted a Society, *ad fidem propagandam*, in that egregious Gasholder (lit. *Geist*,* *haltende)* of northern lights. They have written books—cast moulds—daubed drawing paper—invented instruments, published transactions, and founded what all the rest of Europe could not—a PHRENOLOGICAL JOURNAL. The cold, cautious, prudent, metaphysical, money-sparing Scot—the victim of no other enthusiasm—than once, perhaps, of a religious phrenzy, engendered by oppression—the learned, moral, national Scot, at all times ready to dare the worst for his country's fame, has been found the sole scion of the tribe of Japhet, that would lend the name of his native land to this senseless absurdity, this pitiful imposture!

A. D. 1820.—Mr. Combe began to write upon Phrenology. Same year appeared the Philosophy of Molehills, by Caleb Scutch, a small attorney, in Candle-lane, London. Various treatises upon Warts and Wens, and their signification, advertised at the Leipzick fair. The "*Pettifogger to let*," a work announced about the same time, never appeared, the author being deterred, by apprehension of an action of defamation in the jury court, that GREAT PALLADIUM OF THE LIBERTY OF THE PRESS. He converted his smart little treatise into a Latin Eulogy upon the latter, commencing,

"*Lucus a non lucendo, Eheu! Diespiter!*"

A. D. 1823.—*Annus Mirabilis Phrenologorum.* Phrenological Journal appeared about January 1. Great surprise among the booksellers, as to the *bona fide* publisher—or the

* Without being positive, may not the original MSS. be *Ganse*—haltende, or *Goose*—holden?—EDITORS.

nulla fide readers—their weight, number, and proportion to each other. Such, however, has been the industry of the contributors to this singular publication, that the faithful chronicler of the Sciences of Physiognomy must feel himself obliged to enter their discoveries, real or pretended, it matters not, upon record.

1. Mr. George Combe discovered that the celebrated Anatomist, of Edinburgh, Dr. Barclay, had *uttered* the contempt which all *feel* for his pretended Science of Phrenology, challenged Dr. Barclay to the controversy, in which he probably thought that here, as in his *issues* elsewhere, he should still be a gainer, even though he lost his cause. Was surprised that Dr. Barclay answered not his call!

2. Mr. Geo. Combe discovered that Professor Jameson had no satisfactory reason for declining to exhibit seventy Phrenological Sculls in the college museum, though, at the same time, he was not to be blamed!

3. It was discovered that Mr. Charles Bell's anatomical experiments upon the nerves, accord with Phrenological discoveries!

4. The Enemies of Phrenology are WASPS, BUTTERFLIES, ANTS, GEESE, DUCKS, OWLS, PARROTS, MONKIES, BEARS, SWINE, ASSES, CURS. This very curious discovery is to be found detailed in vol. i. p. 86.

5. Domerblitzen's Lectures discovered, being an essay to "ascertain" the effect of infantile balderdash upon a British reader.

6. Mr. Geo. Combe discovered a new ORGAN and corresponding FACULTY, CONCENTRATIVENESS; consequently a new source of pleasure—to the sect: but whether he received the same liberal reward as was offered by the Roman tyrant for this singular merit, has not yet transpired.

But I must refer the reader to the work itself, which, like all the worst English books, will soon be translated into our own noble idiom.

A. D. 1823, the Phrenological Transactions appeared, a work designed to be the repertory of the discoveries made by the members, corresponding and others, of the Society bearing that name. Only one volume has yet been published, and that, like the Journal, chiefly occupied in setting forth the merits of the "Science," and the withstanding of Gainsayers. Still a few great men have entered their observations upon that imperishable record: with a few of which, we must close the *Chronology* of this division of our subject, merely requesting the reader to interpolate at Anno Domini, 1818, the following paragraph, which strangely escaped us in its place.

(A. D. 1818, great schism arose between Gall and Spurzheim. Gall, content with the present number of FACULTIES; and thinks some round half dozen of these very doubtful.—Spurzheim, prone to discovery, invents the *loci* and faculties of SUPERSTI-

TION and PHENOMENA; which, with Geo. Combe's CONCENTRATIVENESS, mount up the number to 36. Observed in Edinburgh, after this, that Gall was less in the odour of *Basbleuism* than Spurzheim, the latter approaching more nearly to the perfection of the northern school.)

Transactions of Phrenological Society, vol. α. ω.

1. Dr. Richard Poole gave a *view* of some of Dr. Spurzheim's Lectures, demonstrating 1, that in the squeeling oratory of Dr. Spurzheim, the επεα πτεροεντα were actually rendered *visible;* just as the air is seen to dance before our eyes in a hot summer day after rain; and secondly, that the intensity of his tones, and the latitude of his grammar, had not prevented Dr. P. from comprehending the one-half of what he said, and misrepresenting the other.

2. Mr. William Scott took many curious "views" of the functions of constructiveness, destructiveness, secretiveness. The "*function of destructiveness*" must be a lucrative one in Britain, if we may judge from the well-known and sanguinary criminal code of that people: but whether this lawyer have the advantage of any official relations in its study or not, or whether the emoluments of its melancholy duties be sufficient in Scotland, the poorer half of the island, to attract the services of so learned and acute an individual, I cannot, at this distance, ascertain.

3. Mr. A. Combe discovers that injuries of the brain seriously modify the manifestations of mind, and that Phrenologists ought to know that this piece of news is not—"much older than their ale."

4. Dr. John Butter, M. D., F. R. S., "F. L. S., and W. S. Fellow of the Royal College of Physicians, Edinburgh, &c. &c. Member of many Phrenological Societies in London, Edinburgh, Paris, Philadelphia, &c. &c." observed that some individuals are miserably defective in perceiving the right hue of colours: and Mr. Geo. Combe, (I have no note of the experience *theranent* of Mr. And. Combe, or of Mr. Abr. Combe, nor yet of another Combe of a different gender, and to me of unknown appellative, but a keen writer, and whom I shall therefore designate the *Lithotome cachée,)* has also discovered the same thing. What ribald will now have the arrogance to deny that eminent authors, and men of renown, and of original inventive powers, writers fairly *infeft* in the *bona vena ingenii* of old Horace, now lend their support to the Science? Why, it is a most strange thing that men should mistake colours; and the very next contributor I have to mention is known not to have done so when he made his *debut* among the supporters of the new Science. A gentle author of the equestrian order!—an *eques auratus perillustris!*

5. Sir Geo. Mc. Kenzie found every thing he wished to find, in the scull of the assassin Bellingham, except his energy and his brains.* *Cætera restant.*

* I mean not Sir George's brains.—HACKELL.

Turn we now to the state of the Phymatomantic Art in other parts of the world—commencing with the remainder of Europe, and ending with the foolish Paterson of Hindostan.

[TO BE CONTINUED.]

ARTICLE VI.

A Case of EXFOLIATION of the CUTICLE.

COMMUNICATED BY THOMAS NEWELL, M. D. CHELTENHAM,

Surgeon Extraordinary to the King.

The young Lady, the subject of the following history, was about twenty years of age when the complaint made its first appearance, since which time she has had several returns of it.

In some of these attacks, the separation of the Cuticle has been universal over the whole body, while in others, which have been slighter, it has been more partial. The Cuticle does not appear to undergo any morbid change in its structure, and is drawn from the hands and feet in the form of a perfect glove. Nor does the Cutis underneath appear to have taken on any alteration, but that of diseased action, while the process is going on, and it is left, when this is completed, in a perfectly sound state.

The separation of the Cuticle, upon the application of a blister, is, in some respects, analagous; but with this important difference, in the effusion of a considerable quantity of fluid between the Cutis and Cuticle, during the separation. It appears that in both instances, inflammation of the Cutis takes place; but there must be some specific difference in the nature of the inflammatory action, for in the case I am describing, no fluid whatever is formed; but the separation seems to be effected by an absorption of the points of connection between the Cutis and Cuticle, somewhat similar to the process that takes place in the exfoliation of bone.

The attacks have come on twice, and once, three times, in the course of a year.

The complaint commences with an inflammatory disposition in the skin, over the whole body, more especially in the bends of the joints, attended with great irritation, itching, and a sense of burning heat. These symptoms last three or four days, with more or less violence, and in the same proportion the separation of the Cuticle becomes more or less complete.

A considerable degree of constitutional sympathy comes on, with a frequent pulse, and other appearances of fever. As soon as the separation has taken place, these symptoms subside; the Cuticle peels off, leaving the Cutis exposed, of a red colour, from its increased vascularity, and tender to the touch. In a short time the redness and tenderness subside, and the skin resumes its natural appearance, performing its healthy functions, during which, fresh Cuticle forms upon its surface.

During the time this Lady has been subject to these attacks, various plans of Medicine were had recourse to, but without appearing to diminish their frequency or violence. She has now been nearly free from the complaint for three or four years, which has been imputed to repeated courses of Cheltenham Water during that period.

The only recorded case that I know of similar to this, was presented to the Royal Society, in 1769, by the late Mr. Warner, of Guy's Hospital, and was published, with a plate of the glove-like appearance, in their transactions. The patient, in the 55th year of his age, was the Rev. Mr. Parrott, of Saham Tony, in the county of Norfolk, and was communicated to Mr. Warner, by the late Mr. Gooch, of Norwich.

In the history of this case, it is mentioned that the fever, which preceded the separation, was of so peculiar a kind, that none of the Medical men of great experience knew by what name to characterize it. The patient was very susceptible of alterations in the state of the air, and he had sometimes, an attack twice in the course of the year. In this case, the Nails also separated, being gradually removed by the growth of new ones, a process which took five or six months, long after the Skin had acquired a healthy state. This gentleman attributed his attacks to obstructed perspiration; but it seems more probable that this was the effect of the incipient stage of the disease, and not the cause of it.

The precise connection which subsists between the Cuticle, Rete Mucosum and Cutis, has not been agreed upon by Anatomists. M. St. Andrè believed he had passed Injections into the Cuticle; but this has not been admitted by others. This substance seems, as far as we are able to examine it, to be unorganized, and is probably formed by a peculiar secretion of the Cutis, which becomes gradually consolidated into the form in which we see it.

The Rete Mucosum adheres to both so closely, that it is not easy to demonstrate it as a separate membrane, except in the Scrotum of the Negro; and it is, as is well known, of different colours, in the different races of mankind. It is a soft membrane, and though probably formed by a process similar to secretion by the Cutis, it is organic, and has a vitality, though, perhaps, inferior to the Cutis itself.

In these cases of exfoliation of the Cuticle, the absorbents of the Cutis would seem to be the agents by which it separates itself from the Rete Mucosum, as well as the Cuticle. That this is the case, seems probable for several reasons.

There is no part of the body which the principle of life is so reluctant to restore when lost, as Cutis, and when a Cicatrix is first formed, it has no Rete Mucosum. This may be seen after wounds, and in the pustules of small pox of Negroes, the Cicatrix in which is at first white. As the Cicatrix is less vascular when first formed, and consequently more tardy in its actions than original Cutis, so it requires time for the formation of either

Cuticle or Rete Mucosum; and if the injury is extensive, it is sometimes not renewed at all.

The Rete Mucosum seems in all cases to accompany the Cuticle when it becomes separated; and it is a curious fact, that although the Cutis itself in a black, is of the same colour it is in a white man, yet when the rete has been removed, it is, in time, restored of its original colour, although anatomical investigations leave us entirely in the dark, as to any difference of structure in the Cutis of the two races upon which so singular a fact depends.

There is a species of the common fowl met with throughout the whole range of the eastern Archipelago, extending from Sumatra to the Molucca and Philippine Islands, in which all the bones appear of a jet black colour. But this is not exactly the fact, for the colouring matter is confined to the Periosteum covering them, and when this is scraped off, the bone is of the common colour. The sailors call it the Negro Fowl. I took some pains, with such means as were in my power, to ascertain whether there was any difference in this membrane from the periosteum of the common fowl, or any structure upon which so striking a peculiarity depended; but I could find none. The flesh is the same in appearance and flavour as in the common fowl, and they are eaten indiscriminately.

It would be curious, by crossing the breed, to ascertain whether, as in the white and negro, this membrane would become changed in colour, as in the mulatto. If this should be the case, it would, in some measure, confirm the opinion, that the colouring matter of the Rete Mucosum in the human species, is distinct from the membrane itself, and formed by a different process. This would acquire additional weight, if it is true, as has been asserted, that the skin of the negro is not so black when first born, as it becomes afterwards.

The above considerations may furnish an explanation of some recorded cases, where the skin of the negro has been said to have been changed to a white colour. If he were attacked with a disease similar to the cases above mentioned, this would be the case, at least, for a time; and it would continue until the Cutis was restored to that healthy action, by which it would be enabled to re-produce the lost Cuticle and Rete Mucosum, when the original colour of the race to which he belonged would be restored.

A singular case is recorded in the Philosophical Transactions of the Royal Society, of a child who was exhibited before them, that was born with a clear skin, but in eight weeks it became of a yellowish colour, without indisposition, which, by degrees, thickened, and turned to a dusky hue. The thickness increased until it became rugged, like the bark of a tree, covering the whole body, except the face, palms of the hands, and soles of the feet. This rugged covering he shed every autumn, when it became about three quarters of an inch thick, being callous and insensible, and not bleeding when cut, though sometimes when cracked, it would bleed from underneath.*

* Phil. Transactions abridged, vol. 7, p. 483.

It is probable that this disease was produced by a diseased secretion of the Cutis, producing, instead of healthy Cuticle, the substance in question.

This case may be ranked under one of the varieties of the order Squamæ, and was entirely different from the cases above recorded, in which the Cuticle was shed in its perfectly natural state, thin, delicate, and semi-transparent; a specimen of which may be seen in the Anatomical Museum of the Casualty Hospital at Cheltenham, where one of the exfoliations of the hand is preserved in the perfect form of a glove.

The Cuticle performs very important offices as a covering to the true skin all over the body. On those surfaces subject to great pressure, it is thicker, as in the palms of the hands and soles of the feet, and gradually becomes thinner, or altogether lost, as it approaches internal surfaces. It seems that upon those parts most liable to pressure, the secreting power of the Cutis is most vigorous; for the Cuticle of the palms of the hands and soles of the feet is thicker in a new-born infant than in other parts, as has been observed by Boerhaave, Kaaw, and others.

The principal use in recording cases of morbid appearances of rare occurrence, arises from the practical inferences which they may afford. The Cutis being of a glandular structure, and in a healthy state, secreting and separating a large proportion of fluid no longer necessary, and which, by its retention, might impede or disorder the functions of many other organs, is liable itself to a great variety of deviations from its healthy actions, producing numerous and various diseased appearances upon its surface.

The consideration of these does not belong to this place, beyond such reflections as the case recorded above may give rise to.

There seems little doubt, but that the inflammation attending this complaint, is of a specific character, not easy to be detected; for unlike simple inflammation, attended with a separation between the common integuments, there is, in this, no effusion of fluid. The application of heat, or the stimulus of acrid substances applied to the skin on ordinary occasions, produces the usual phenomena of inflammation, increased heat, redness from increased vascularity, and pain, each in proportion to the intensity of the cause applied. Where these do not go so far as to destroy structure altogether, there appears to be an accompanying disposition to increased secretion, forming while the separation is going on, an accumulation of fluid.

In the above case, though the usual appearances of common inflammation were present, the absorbent, instead of the secretory process, was thrown into action. So little disposition did there seem in the Cutis to secrete, while the disease was going on, that the Cuticle, when separated, was of the most delicate texture, having nothing extraneous attached to it, thin, and semi-transparent; nor when the process was completed, was

there any delay, or tardiness in the Cutis, in the resumption of its natural appearance and functions.

We have a striking example of a specific difference in morbid action, in the suppurative inflammation which produces matter in the pustule of the Small Pox. In this instance, although the inflammatory process is the same as in other instances, and terminating in the formation of matter of exactly the same appearance, yet the pus formed contains an additional property, the peculiar poison of the disease. The same remark may be applied to Syphilitic Ulcers, where a specific property is added to the common characters of matter.

In the same manner, in the case of exfoliation of the skin, although the inflammation which precedes the separation is not different in appearance from ordinary instances of it, the absorbent system only, and not the secretory, is thrown into a state of diseased action.

It is of great use in the practice of Medicine, as well as very curious, to notice these surprising variations and peculiarities in diseased actions; but which will probably remain among the many mysteries which surround us, wherever we cast our eyes, or direct our attention; nor if we could penetrate their obscurity, is it probable that it would lead to practical inferences of any great value.

In the case above mentioned, the patient had repeatedly gone through, in the intervals of the attacks, the ordinary courses of alterative medicines and bathing, but without apparent advantage. The disease has not returned for some years, and the skin is of a perfectly healthy and soft texture. During this period she has frequently taken long courses of Cheltenham water. It is likely this remedy may have had a great share in her recovery, when it is recollected that it should not be viewed simply in the light of an aperient, but as one which pervades the whole constitution, and acts upon all the secretions. It is only by viewing its effects in the latter point, that we can explain its acknowledged efficacy in many chronic and long-standing diseases of different organs, as well as those more immediately connected with the digestive process, and in a variety of cutaneous diseases, which had long and obstinately resisted other remedies.

Cheltenham, October 24th, 1828.

ARTICLE VII.

Vaccination.—Small-Pox.

Notwithstanding the endeavours of the Medical Profession in this neighbourhood, ever since the commencement of the present century, have been earnest and persevering to obtain a full approval from the public of the practice of Vaccination, they have only partially succeeded in this philanthropic intention. Amongst the lower class of society in this district, the prejudices

are still very strong against the practice. If, indeed, we can take the Infirmary as any criterion by which to form a correct conclusion, we must believe that the poor are less favourable to Vaccination now than they were ten years since. For by referring to the number of persons vaccinated of late years at the Institution, and comparing it with the number vaccinated at an earlier period, we find the former to fall far short of the latter. In the years 1825, 1826, and 1827, the number vaccinated at the Infirmary each year, were, respectively, 32, 10, and 20; whereas, for the earlier years, 1815, 1816, and 1817, the number of persons vaccinated each year, at the same place, were 596, 556, and 612.*

This is any thing but encouraging as to the progressive advancement of the cause of vaccination, and makes us exceedingly anxious that the public should be aware of the necessity of a more general adoption of this important and highly beneficial practice, before we can expect to derive all those benefits from it, which its efficacy as a preventive of Small Pox would otherwise ensure to us.

The consequence of this neglect on the part of the poor, (for by the higher orders the practice is universally adopted,) to avail themselves of this boon, is, that Small Pox commits, whenever it becomes epidemic, great havoc in this town and county.

We are perfectly aware that here, as in other parts of the kingdom, cases of Small Pox have occurred after Vaccination, but these, for the most part, have been so mild in their nature, as to evince that even in these cases the protecting influence of Vaccination was such as to modify the Small Pox, and convert it from a terrific and fatal, into a mild and harmless disease.

Within the last year, especially during which Small Pox has visited Worcester, and the towns around, as a severe and fatal disease, we have derived the utmost satisfaction in witnessing the triumph of Vaccination, in a great variety of instances, and even amongst individuals who had been subjected to this mild preventive, shortly after the promulgation of the discovery by the immortal Jenner, and who are consequently living witnesses, that the lapse of time impairs not its salutary protecting powers.

The Worcester Infirmary has afforded us, within these last six months, strong proof of the efficacy of Vaccination; in consequence of Small Pox occurring in that Institution, only in persons unprotected by Cow Pox.

Cases of Small Pox.

Wm. Trapp, æt. 25, labourer, admitted into the Worcester Infirmary, July 5th, 1828, with Psoas Abscess. Relates that about a month before he came in, he perceived a Tumour in the groin, preceded by pain in the small of his back.

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* It is requisite to observe, that the great falling off in the number vaccinated at the Infirmary, may, in some degree, be accounted for, from the pupils of one of the Surgeons to the Institution, weekly vaccinating all applicants at home.—(*Editors.*)

24th.—The Tumour was punctured, and about 16oz. of pus let out.

27th.—Was seized this morning with rigors, sickness, and vomiting. Pulse 120; skin hot.

31st.—Tumour punctured again, 12 oz. of fluid let out. He has eruptions on the skin.

Aug. 2.—The eruptive fever turns out to be Small Pox, of the confluent sort. The Tumour has not filled again. Sum haust. salin Ant. 4tis. horis.

8th.—Complains of pain across his chest, with tightness and difficulty of breathing. The eruption goes on favourably.

10th.—Complains of being very weak; 3 oz. of Port Wine ordered daily. He continued to improve, and went out on the 24th of August. Soon after he went out, the Abscess in the groin re-appeared and burst, after which he rapidly sunk, and died in about a month after he was discharged from the Hospital.

Jacob Walters, æt. 22, labourer, was admitted into the Worcester Infirmary, June 7th, 1828, with a contracted swelling of the knee joint. Leeches, with cold applications and perfect rest, were employed with success. It was subsequently strapped with Emp. Saponis; it was nearly well, when he sickened with Small Pox, August 1st, which proved to be a very bad confluent sort. He had considerable delirium. Bowels were kept gently open. When the excitement subsided, he was ordered to drink freely of cider.

Sept. 19th.—He is now convalescent; the knee is nearly as small as the other, and he is gaining strength fast.

Of these cases we have only given a brief outline, as our chief object is to record the fact, that severe confluent Small Pox, affording, of course, in abundance, variolous contagion, appeared in the Infirmary, and did not spread amongst the vaccinated. But, we may inquire, what was the plan that prevented the further progress of the disease? The Physicians and Surgeons only had recourse to the precaution of not admitting persons who had neither undergone Small Pox nor Cow Pox. The Vaccinated were still admitted, as if no case of Small Pox had occurred, and we state, with the highest degree of satisfaction, that no case has hitherto occurred, in which those who had undergone Cow Pox, have taken the variolous infection, so as to be at all indisposed. In a girl, twenty years of age, who had been Vaccinated ten years, a few pustules appeared, but died away without any illness; proving that the Small Pox infection had been applied to the constitution, but had failed to produce the disease, the patient having been previously protected by Vaccination.

We cannot help earnestly calling attention to the circumstances above detailed, because they prove, and strikingly prove, that time does not appear to diminish the protecting influence of Vaccination. In the Infirmary, at the above time, there were patients of all ages, and some that were Vaccinated soon after the discovery of its protecting power was promulgated, and yet in no one case did it fail of affording a perfect security against Small Pox. We need not state how happy we are in being thus

enabled to record so striking and convincing a result. For in such an Institution as the Infirmary, at Worcester, where there are no means of separating the patients, if Small Pox had spread, the Medical Officers must immediately have closed the doors of the charity.

Our intelligent correspondent, Mr. Martin Ricketts, of Droitwich, also gives us a still more gratifying account of Vaccination at Droitwich, where it has been subjected to a very severe test, in consequence of the appearance, in that town, of Epidemic Small Pox, as the following observations from his pen shew.

Observations on SMALL-POX.

BY MR. MARTIN RICKETTS, OF DROITWICH.

THE Small Pox having lately been brought into this town and neighbourhood by Inoculation, and many reports highly injurious to Vaccination having been circulated, I have omitted no opportunity of satisfactorily investigating those cases which have been the subjects of such reports, and many others, by which information was to be obtained, relative to the protecting influence of Vaccination against Small Pox contagion, and have found that no severe case of Small Pox, after Vaccination, has occurred. My object in bringing forward the following cases, is not only to state how mild and harmless a disease Small Pox has appeared here in those persons who have been previously vaccinated, but also to shew what considerable power the vaccine process has had in mitigating the symptoms of Small Pox, after the system has been evidently affected by that disease. I am well aware that this communication contains nothing new to the Profession generally, but the doubts and fears of many of my patients respecting Vaccination, since the Small Pox has been propagated here, appear to me to call for a Medical report on the subject.

I ought not to omit stating, that from the commencement of my practice, (nearly fifteen years since, from which time I have registered upwards of two thousand vaccinated cases,) Small Pox has never appeared in Droitwich as an epidemic, and that I have not seen more than two or three casual cases until within these last two months.

Mary Price, aged 4 years, had confluent Small Pox, from exposure to contagion, to an alarming degree—a brother and sister, the former two years old, and the latter fourteen months, were supposed to have sickened for the disease, both being attacked with febrile symptoms, and great drowsiness. The mother readily acceeded to have them vaccinated; on the third day afterwards, the eruption of Small Pox appeared on the face and neck of both children. On the eighth, their arms showed that the Vaccine disease had been properly received, and the Small Pox eruption went off, without maturating, and leaving the children perfectly well.

Eight children in the same neighbourhood, all apparently in perfect health, were vaccinated in consequence of one in the house then labouring under

Small Pox, derived from the same source of contagion as the child mentioned in the preceding case. This child was in the arms of its mother watching me vaccinate the other children, and on my remonstrating with her on the danger she was subjecting the little flock around me to by its exposure, she replied that "in a confined cottage like her's, it was impossible to keep the children apart, and that some of them were obliged to sleep in the same bed with the small pox patient." All eight children went through the regular vaccine process, and all escaped small pox. Five children out of seven, living near this family, (none of whom had been vaccinated,) fell victims to small pox about this time.

Sarah Crowther, aged 7 years, was vaccinated four years since, and has an indistinct cicatrix on one arm. She had been exposed to the contagion of Small Pox, and was attacked with febrile symptoms, followed by the usual small pox eruption. On the seventh day after its appearance, a partial crop of hard elevated pimples were falling off, without maturating, and unattended by the slightest secondary fever.

Three children, Ann, Noah, and Fanny Hughes, the first named, cousin to the other two, were observed sitting by the road side, apparently recovering from the Small Pox. Two of the family had recently died of that disease. Being much struck with the difference there was both in the countenance and appearance of the pustules of Ann, compared with the other two children, who appeared greatly debilitated, and not free from typhoid symptoms, I more particularly examined them, although they were not my patients, and found the difference to arise in consequence of Ann being the only one of the three who had been vaccinated. She seemed in perfect health and spirits, and made no complaint of indisposition after the appearance of her eruption, which failed in running the usual course of small pox. I am more particularly anxious for the insertion of this case, as it gives me the opportunity of adding, that the mother of the subject of it, was vaccinated *thirty years* since, by the late Mr. Wilmore, Surgeon, of Worcester; that her arm retains the most perfect vaccine cicatrix I have ever seen, and that she has been much exposed to the contagion of small pox, without taking the disease.

Charlotte Willis, in labour with her second child, had by her side in the same bed, a boy about two years old, in the 10th day of the eruption, of confluent Small Pox. On the birth of the infant, I immediately vaccinated it, and watched the regular progress of the disease, which it took in a most satisfactory way, escaping small pox.

I could add several other cases, all tending to show that when modified Small Pox does occur, subsequent to Vaccination, the eruptive fever is the only symptom requiring attention, and that on the appearance of the eruption, which dies away from the 4th to the 7th day, the patient complains of no further indisposition.

Droitwich, Sep. 20th, 1828.

ARTICLE VIII.

Fatal Aneurism of the Abdominal Aorta.

June 1st, 1821.—John Phillips, æt. 24, milkman and cattle-dealer. He has, occasionally, worked also at leather-dressing for the last five or six years, since which time he has often had cough, and some hæmoptoe. About a month ago he was attacked with violent vomiting one hour after his dinner. At supper on the same day, he ate a small quantity of boiled mutton, and drank half a pint of rough cider: an hour after, (between nine and ten o'clock,) he went to bed and fell asleep: at one o'clock he awoke suddenly with severe shifting pains in his bowels, and a violent pulsation in the epigastrium. The pulsation continued for the remainder of the night, and through the succeeding day, and a great part of the following night, but subsided gradually towards morning. Ever since this attack, he has had violent vomiting a quarter of an hour after each meal. His bowels have been irregular in their action, sometimes loose and sometimes bound, and often affected with griping pain. The pulsation in the Epigastrium attacked him for three weeks, on first rising in the morning, and continued for two or three hours. After vomiting his dinner, he was always attacked again in the same way. A loose stool always relieved the griping and the pulsation. For the last week the griping and the pulsation have been constant, and the bowels bound. He has lost flesh since the first attack. This last week he has had cough, sore throat, and hoarseness. The urine is high coloured and scanty. No thirst.

There is a preternatural fulness of the epigastric region, to the left of the linea alba, nearly circular, and covering the space of two crown pieces. This fulness is obvious to the sight and touch. It is soft and yielding. It pulsates strongly and regularly; and its pulsations correspond with those of the artery at the wrist, and of the heart. He says the tumour is painful when pressed. The pulse at the wrist is small and weak, 88 in a minute. He has a dry cough, which is particularly troublesome at night. He has pain immediately after eating, in the situation of the tumour. The tongue is moist and much furred.—Applicentur Hirudines xx. tumori. Dein Emplastrum Lyttæ ibidem. Sumat Extracti Colocynth. Comp. gr. v. Hydrargyri Submuriatis gr. j. ter indies. Diet, milk, and milk and water, in small quantities. Perfect rest.

4th.—The pulsation as before. He has had many dark offensive stools, and has voided fourteen feet of tœnia solium. The tenderness of the tumour and the vomiting, are relieved.—Let him continue his medicines and diet as before.

7th.—He has voided several more joints of tape-worm, and has not vomited for two days. The pulsation as before. The blistered surface is healed. Hirudines x. applicentur tumori. Sumat Olei Terebinthinæ ʒ ss. statim.

9th.—The Oleum Terebinthinæ remained on his stomach nearly an hour; he then vomited. He had afterwards several loose bilious stools, which did not smell of turpentine, and contained no tape-worm. The tenderness, pain, and pulsation, are all diminished. He has not vomited his milk since the last report, and has kept down some light pudding. Repetantur Oleum Terebinthinæ et Hirudines x. Epigastrio.

12th. The Oleum Terebinthinæ remained on the stomach, and produced symptoms of intoxication, which lasted nearly an hour. Catharsis followed. The stools smelt strongly of turpentine, but contained no tape-worm. The pulsation is less, and the pain and tenderness are diminished. He has had no return of vomiting. The appetite is improved, and his cough has left him. Applicentur iterum Hirudines vi. Epigastrio. Diet.—Milk and light pudding in small quantities.

Soon after this report, this patient was admitted into the Worcester Infirmary, and placed under my care. He was confined to his bed, put upon low diet, and had small repeated bleedings from his arm. He was cupped occasionally in epigastrio, and his bowels were kept, by mild laxatives, in an open state for three weeks. Under this treatment, he lost entirely all affection of the stomach, and tenderness of the epigastrium; and the tongue became clean and natural in appearance.

July 11th.—The pulsation is much the same, but with the exception of weakness, he says he feels as well as ever he did in his life. He never has any vomiting or griping, and his appetite is good. He has lost his cough entirely, and sleeps well. He has not passed any tape-worm for some time.

On the 29th of July, he walked two miles into the country to see some friends, and whilst he was drinking some brandy and water, he complained suddenly of pain in the stomach, became very faint and pale, and vomited. He then lay down on a bed for two hours, said he was better, rose, and walked home to his house in Worcester. I was sent for to him at 3 o'clock, P. M. and found him lying in bed on his back, with his knees drawn up, complaining of great faintness, and pain in the abdomen. His face and skin generally were of a deathlike whiteness, the extremities cold, and the pulse very feeble, small and fluttering. The abdomen was generally enlarged, hard and tense, without pulsation, and painful on pressure. He had frequent micturition. He continued gradually sinking, and died at four o'clock on the following morning.

Examination of the body, 28 hours after death.—In the sac of the Peritoneum, there were found five pounds and six ounces of grumous blood. In the space between the liver and smaller curvature of the stomach, was an aneurismal sac, of the size of a large orange. It pushed the left lobe of the liver upwards and forwards, and the duodenum and pancreas downwards. The latter was strongly adherent to the lower portion of the sac. The sac had burst anteriorly under the edge of the liver, by an open-

ing too small to admit the point of the little finger. Near the opening, the walls of the sac were much extenuated. Upon removing the aneurismal sac, with the abdominal aorta, the inner tunic of the latter was found ruptured in the space between the cœliac and superior mesenteric arteries, forming an entry into the aneurismal pouch, which would freely admit two fingers. The remainder of the artery appeared perfectly healthy in all its coats, and without any appearance of ossification. The cœliac, splenic and hepatic arteries were compressed, and nearly obliterated, by the posterior part of the sac, to which they were adherent. The superior mesenteric artery was larger than usual.

The other contents of the abdomen were healthy. The heart and lungs also were quite natural.

Observations.—On reviewing the history of this case, I am inclined to infer that the rupture of the Aorta, in the first place, occurred suddenly in the act of vomiting. It is worthy of remark also, that after aneurism was unequivocally established, the symptoms of the case were much under the controul of diet and regimen, and were, perhaps, in the early stage of the disease, aggravated by the presence of the tape-worm in the intestines. The slowness of the hemorrhage into the peritoneal sac, after the aneurism had given way, is a very remarkable circumstance in the case, for there can be little doubt but that he walked two miles home after the first rupture of the aneurism, and that after his return he lived more than twelve hours.

JONAS MALDEN, M. D.

ARTICLE IX.

Case of STRANGULATED HERNIA, in which six inches of the Intestine were removed.

BY JOHN SIMPSON, M. D. BATH.

ON the 1st of January, 1816, I was sent for to Birstwith, in the Forest of Knareshough, to operate upon a poor man of the name of Thomas Gite, for Strangulated Hernia. Gite was, I think, about sixty years of age, of a spare form, and pale; capable of great fatigue, for his principal occupation was that of a poacher; his ostensible one, that of a weaver of linen cloth. He had, for many years, been troubled with a large Inguinal Hernia, which had frequently descended into the scrotum, but was always reduced, at least to all appearance I suppose, for I am of opinion, from the old adhesions I saw, that it had not been entirely reduced for some years probably. I never heard that he wore a truss. Four days before I was sent for, the intestine had come down, and could not be returned; it then became strangulated. A gentleman resided in the immediate neighbourhood, who had received a medical education, but who did not practice, except amongst his poor neighbours. He was applied to for assistance, which he lost no time in rendering. The treat-

ment had been very proper and decided. Very free bleedings, nauseating medicines, and the warm bath, were employed, both to overcome the inflammatory action, and to assist in the reduction of the hernia. After all attempts to return the intestine had proved ineffectual, the gentleman recommended an immediate operation, and until it could be performed, applied ice and snow, which at that time were very plentiful.

When I first saw Gite, he was lying on his back, with his knees bent. His features were contracted and ghastly pale, and he was troubled with constant hiccough. There was pain in the hernial tumour, and in the abdomen, but not so much as there had been. He frequently vomited, and there had been no evacuation per anum since the strangulation began. I do not remember the exact state of the pulse. Before the operation, an enema of tobacco was administered, but the reduction could not be effected. After the effects of the enema had entirely gone off, I performed the operation, which the patient underwent with great fortitude. Upon opening the sac, there escaped a great quantity of fluid; and omentum was found along with the intestine, both of which appeared to be in a state of mortification. I found the stricture to be at the internal ring, which formed the mouth of the hernial sac. I passed a bistoury upon my finger, and divided the stricture, which was so tough, as to offer much resistance to the instrument. As soon as the stricture was divided, very great relief was given to the patient, who immediately felt, to use his own expression, "as if he were in heaven." The parts strangulated were omentum and intestinum ileum, I think. There was a very great number of adhesions between the sac and its contents, some of recent formation, and some appeared to be of an older date, which led to the supposition that the hernia could not lately have been returned. I could not draw down the intestine to examine the seat of the strangulation, on account of the numerous adhesions. I attempted to dissect them away, but found it would be an endless task. For the same reason the protruded parts could not have been returned, had they been in a healthy state; but they had all the appearance of being mortified. As the patient felt considerable relief, and as I was then young in the profession, and could not decidedly pronounce on the state of the intestine, I did not open it; but after applying proper dressings, I gave him an opiate, and left him. Not satisfied with what I had done, I visited Gite very early on the morning of the 2nd. I found him free from pain, but he was restless; still had the hiccough, and from the fætor, I was satisfied of the state of the intestines. He had had no evacuation by the bowels since the removal of the stricture, and the sickness continued. I made a long incision into the intestine, at the lower part, when an immense quantity of black feculent matter was discharged, with considerable relief to the patient; the vomiting subsided, and, in time, the restlessness and hiccough also. I saw Gite the next day, and found him much better. He had slept; hiccough was

gone; his countenance was much better, and great quantities of feculent matter had been discharged through the wound, but nothing per anum. I removed, with the knife, the mortified parts, consisting of a large portion of omentum, and about six or seven inches of intestine. There was very little hæmorrhage. The lower part of the wound was closed, and the upper part kept clean. A pad was applied, which was removed whenever feculent matter had to be discharged. All bad symptoms disappeared, the man slept well, and took plenty of nourishment. I saw him every day for a week or ten days. The wound became much contracted, but all the fæces were discharged that way, and not any per anum. When he felt uneasy, he removed the pad, to allow of the evacuation, and then replaced it, by which means he was kept clean and comfortable. He gradually became quite restored in health, but with a prospect of having an artificial anus all his life. About five weeks from the operation, Gite informed me one day when I called to see him, that he had passed some fæces per anum, but that the greatest proportion came by the wound in the groin. In consequence of this information, I increased the pressure of the pad on the wound, and requested that it might not be so frequently removed. I saw him the week following, when I found that the greatest proportion of the fæces passed per anum, and very little by the groin. The wound was very much contracted, and appeared very healthy. I applied a simple spring truss to it. When I next saw him, which was after a lapse of some weeks, he informed me that he was very well, his strength much recruited, and that all his fæces were discharged per anum. The wound was quite healed, except a very small fistulous opening, through which came a slight yellow discharge, but the quantity very small; the opening might admit a very small probe. I did nothing to it, but recommended the truss to be constantly used. In a few months from the time of the operation, all the discharge ceased, the fistulous opening closed, and the man was quite well in every respect. I have since heard that finding the truss troublesome, he left off the use of it, and had never experienced any bad effects.

Thomas Gite was alive in the month of June, 1826, and in good health, never suffering any inconvenience from the operation which had been performed upon him, by which he lost a large portion of omentum, and several inches of one of the small intestines, and in all probability is alive at the present time, Dec. 15th, 1828.

This case certainly shews, in a remarkable manner, what nature will do in restoring serious injuries, if properly controlled or assisted. There were, however, two circumstances which materially contributed to the success of the case; one, the great inirritability of Gite's constitution, which would allow of serious injury without great re-action; and the other, the number of adhesions which were formed, by which means the intestine was so confined, as to allow of an entire union of its parts.

FŒTAL MONSTROSITY.

Vide Mr. S. J. Stratford's Paper.

Drawn on Stone for the Midland Medical & Surgical Reporter, Feb. 1829, by Engelmann & Co

ARTICLE X.

Fœtal Monstrosity.—Deficiency of the Cranial Bones.

BY S. I. STRATFORD, SURGEON.

(With a Plate.)

It was the opinion of the celebrated Denman, that Physiology might be greatly improved, by a close and accurate investigation of Fœtal Monsters, and that the Anatomist might detect modes, and varieties of things, hitherto unobserved, which might lead to conclusions important to our Science. With a corresponding conviction, I have been induced to submit the following case for insertion in your Journal.

Mrs. C. found herself pregnant of her third child; all the symptoms which had before evinced themselves, now returned. She was more than once attacked with pain in the side, and difficulty of breathing, which were relieved by blood-letting and gentle purgatives. During the period of pregnancy, she very frequently mentioned that she distinctly felt the motion of the child, which sometimes appeared to be more than usually active. On the 20th of May, she was seized with all the symptoms of labour, which proceeded by regular stages, and was accomplished in about the usual period. During the progress of labour, the usual examination was made, when a tumour, soft, pulsating, and irregular, was felt to present, giving rise to doubts as to the positive nature of the case; soon, however, the ear, and afterwards the face, could be easily distinguished. Immediately after the examination, the tumour bled freely, some of its small vessels having been divided. After a few pains the head was fully protruded, when a highly vascular, and bleeding fungus-like growth was observed upon its back part. Soon the remainder of the process was accomplished, and soon the child was observed to move freely, and the colour of its skin was natural. At first the pulsation of the cord was obvious, but this soon subsided when the child died, apparently from the separation of the placenta, which was very soon afterwards expelled.

Having removed the child, it was carefully preserved; I afterwards injected the body with size and vermillion, from the umbilical vein; and upon subsequent examination of the head, I found that the parts of the face were perfect, but the forehead was much flatter than usual; the superior part was covered with scalp and hair, as in the usual manner; this having continued for a short distance, stopped short; an indentation was observed; and immediately after this, a tumour arose, which was covered with a smooth, glistening membrane, having several vessels taking their course in it; this was evidently the Dura Mater. The Tunica Arachnoides might be distinguished immediately under it, while in some places, where these membranes had been removed, an extremely delicate and vascular tissue, intimately connected with the matter of the tumour, was to be observed; this was the Pia Mater. Having made an opening into the tumour, and applied pressure, portions of matter, evidently brain, were forced out, while many also separated during the period of maceration, leaving no doubt of the nature of the malformation. The tumour was of about the size of a small orange, of an oblong shape, and extended from the forehead to the base of the skull; here, also, the processes of the spinal column were observed

to be deficient; this condition extended from the first to the fifth or sixth of the cervical vertebræ; the several membranes of the spinal cord might be seen, bloody and discoloured, but no traces of the spinal marrow could be found, until we arrived at the seventh cervical vertebra, when it put on its natural appearance, and gave out its nerves in regular succession.

There are many cases of *Acephalous* monsters on record, but I have not met with one precisely similar to the above. In this instance the brain was uot deficient; the cerebral matter was covered with its immediate investments, but there was a deficiency of the cranial bones and scalp; these failing to support the brain, it assumed an irregular and unusual form. The bodies of the cervical vertebræ were present, but the whole arch, and all the processes were wanting; nothing but the membranes of the cord remained, while the cord itself appeared to have been destroyed. The motions of the child before delivery, and immediately after its expulsion, were sufficiently obvious.

ARTICLE XI.

Cases of Tic Douloureux, cured with the Sulphate of Iron.

BY DAVID CORBET, ESQ.

Case I.

On September 12, 1826, Mrs. Chapman, of Tetbury, Gloucestershire, æt. 68, complained of paroxysms of severe lancinating pain, affecting that branch of the fifth pair of nerves, which passes through the supra-orbitary foramen, at which place the pain began, and extended along the course of the branches of the nerve. In the afternoon, for about the space of three hours, she had no pain. The upper eye-lid, and adjacent muscles, were slightly convulsed during a paroxysm. The pain commenced three months before she applied for relief, but did not become severe till a few days before she was visited. Ten ounces of blood were taken from the temporal artery. A dose of Calomel and Jalap; a saline aperient draught in the morning.

13th.—Medicine acted freely; no alteration either in the character or the severity of the pain.—One drachm of Carbonate of Iron three times a day.

27th.—The Carbonate has been taken regularly, latterly in the increased quantity of half an ounce daily. Severity of symptoms increased, the pain extending farther over the cranium, and dipping in a retrograde direction, to the bottom of the orbit; the eye-ball and conjunctiva inflamed; the interval of ease in the afternoon still well marked. A pill, containing one grain of the Sulphate of Quinine, four times in the day.

October 11th.—Sulphate taken regularly. No relief. Ten drops of the Liquor Arsenicalis three times a day.

19th.—The symptoms unabated; severe pain in the bowels. The drops omitted. Two grains of Opium night and morning. A plaister of Belladonna to the temple of the affected side.

25th.—Pains in the bowels gone; in other respects the same. Discontinue the medicine. An eighth of a grain of Stramonium thrice a day.

31st.—No change for the better. Omit the Stramonium. R. Sulph. Ferri. Ext. Hyosciam. āā scrup. j. Pulv. Aloes, gr. xv. ft. mas. div. in Pil. xii. C. i. quater indies.

November 4.—Patient thinks the interval of ease during the afternoon, longer; otherwise much the same. Continue the pills.

10th.—A decided change for the better; the pain not so severe; the interval daily growing longer.

26th.—Free from pain for the last three days.

March 24th, 1827.—Has had occasional relapses, which have been invariably relieved by the pills.

Case II.

Mrs. B. æt. 40, during the Summer of 1827, was affected in a very similar way to Chapman. I deem it unnecessary to enter into the detail. Carbonate of Iron was taken for ten days, without relief; recourse was then had to the Sulphate of the same metal, in the above combination; at the end of a fortnight the patient was well, and has continued so.

Observations.—The above cases were not to be mistaken; the severity, the situation, and still more, the kind of pain; the twitchings of the muscles, and the inflammation, with which, in the course of the disease, the eye and conjunctiva were affected, were sufficient diagnostics. The Opthalmia, in cases of Frontal Neuralgia, is, indeed, somewhat peculiar. A practitioner cannot be too minute in marking; a writer would be culpable in not pointing out such characteristics. If there could be little fallacy in the diagnosis, I apprehend the same will hold true as to the effects of the medicines; in the case of Chapman in particular, the disease resisting all the usual means of cure, giving way to the pills within a few days after the use of them had been begun; the relapses when discontinued; the pain again and again ceasing upon resuming their use, leaves little room to doubt, that the beneficial result was the effect of the particular remedy—not of an accidental or natural crisis.

ARTICLE XII.

HOSPITAL REPORTS.—GLOUCESTER INFIRMARY.

Dislocation of the Femur backwards into the Ischiatic Notch.

George Hayes, a stout young man, about 30 years of age, in the act of ascending the stage of a show, fell, with his left hip to the ground; the limb was instantly useless, and he was conveyed to the Hospital. Upon examination, the foot and knee were turned in, the knee slightly bent, and the limb was shortened by about an inch; in consequence of which, it was pronounced by the House Surgeon to be a dislocation of the head of the Femur into the Ischiatic Notch.

Mr. Fletcher was sent for, but not being at home, did not arrive till four hours after the accident, when he confirmed that opinion by an examination, the patient standing upon his sound limb. The Trochanter Major was behind its natural place, and as the patient stood, the heel did not reach the ground by about an inch,

the toe just touching it. The knee was somewhat bent, and therefore projecting; and the whole limb turned slightly inwards. Immediately after the examination, he was bled to ℥ xxx, and laid upon a low bedstead, covered with blankets, placed between two posts, to which staples were affixed; 3 grains of Tartarized Antimony were dissolved in four ounces of water, and one-fourth was administered every ten minutes till nausea should be produced. In the mean time, the patient was laid upon his right side; the pelvis was well fixed, by a band between the thighs and the upper staple; another band was carried round the pelvis and under the bedstead. A very slow extension was made by the pulley, across the middle of the thigh; he took all the Tartarized Antimony, without any nausea, and then a Tobacco Enema was administered, which had the desired effect. A roller towel was now passed under the upper part of the affected thigh, and around the neck of an assistant, with which an attempt was made to raise the head of the bone over the lip of the Acetabulum. After an extension of half an hour, the joint having a more natural appearance, but no sound heard to indicate a return of the head of the bone into the socket; the bandages were removed, in order to examine the state of the parts, but no reduction had taken place.

As the man now vomited freely, the apparatus was quickly re-adjusted, and another extension made; but the apparatus getting loose, occasioned another cessation, and the bandages, &c. were entirely removed. The patient vomiting and very low; the House Surgeon was gently rotating the limb, to re-apply the circular strap above the knee, when a loud snap was heard, and the head of the bone was found to have returned into the Acetabulum, without, of course, any extension, and merely from a slight rolling motion of the femur casually given.

My father ascribed this unexpected event taking place without any extension, in this difficult case, to the utter loss of strength of the patient—the powerless condition of the muscles; indeed, the man was frightfully exhausted. My father further remarked, that facts are perpetually occurring, which put aside all rules. He had seen four cases of Luxation of the Femur backwards, reckoned the most difficult of all luxations of that bone to reduce, all reduced; one on the Pubis, though every care was taken, was not reduced; another into the Foramen Ovale, not reduced, though here no attempt had been made; and nine upon the Dorsum Ilii, one of which was not reduced. This catalogue of such cases, and their proportions to each other, is a confirmation of what Sir A Cooper has stated to be, as near as can be, their relative proportions. In twenty cases, he says there will probably be twelve on the Dorsum Ilii; five in the Ischiatic Notch; one on the Pubis, and two in the Foramen Ovale. Mr. F. also remarked, "that though it is so desirable to weaken the system, and thence the resisting power of the muscles in difficult cases of Luxated Femur, yet nothing requires more experience

and care than the administration of such powerful agents as Emetic Tartar and Tobacco, which, together with the violence of the operation, is sometimes too much for the powers of life to sustain." WILLIAM FLETCHER.

CASE II.—Large lacerated Wound of the Perineum, Scrotum, and Urethra.

Stephen Adams, aged 27, admitted into the Gloucester Infirmary, October 8, 1827, was working under a part of a house which fell in upon him. When brought into the house, he had a lacerated and gaping wound, extending from the tuber of the ischium by the anus, along the perineum, and through part of the scrotum, exposing the bulb of the urethra. Considerable bleeding had taken place, and there was an oozing of blood when he came in.

The senior pupil brought carefully the wound together, by five or six sutures, and a T bandage was applied over a lint compress and some wet rags. To take immediately Tinct. Opii. ♏ xxx. Aquæ Menthæ Viridis, ℥ i. Low diet.

9th.—He had some sleep last night, and at present only complains of a general soreness. His urine, when he passes it, comes in a torrent from the wound about the bulb of the urethra, evidently shewing that a large rent has been made in it. During the day, he took two doses of Castor Oil, ℥ ss. each.

10th.—This morning he has not much pain, except in his loins, where he was struck probably by the end of one of the beams. He has had a copious evacuation. Does not pass his water involuntarily. There is no extravasation of urine into the surrounding cellular substance.

11th.—An unsuccessful attempt was yesterday made to introduce a flexible catheter into the bladder, but finding its progress checked at the lacerated part, it was discontinued. This attempt was followed by a considerable flow of blood through the catheter, and from the urethra. The stitches were cut.

20th.—He has had no severe constitutional symptoms; some slight sloughs cover that part of the bulb of the urethra which was exposed, and also the wound generally, which is partially open its whole length. To-day, for the first time, he made a little water by the natural passage.

29th.—The wound has now cast off all its sloughs, and looks very healthy. He passes the greatest part of his water by the natural passage. There does not appear to be scarcely any thickening of the adjacent parts.

November 10.—He has been rapidly improving since the last report, and today, for the first time, he passed all his water the right way. The external wound heals very fast.

24th.—Had considerable difficulty in passing his urine about a week or ten days ago, for which a bougie was passed into his bladder, without much difficulty, though a stricture was formed about the rent in the canal. This operation has been repeated every other day to the present.

He now passes his urine freely, and will be discharged next week, the wound being nearly healed.

Mr. Fletcher remarked "that this was a case of torn up Perinæum and Urethra, cured by the simplest means. The dresser had carefully stitched up the wound, probably without knowing of the laceration of the Urethra. Nature, with her adhesive process, did all, as she does in Lithotomy, where the Urethra is sometimes greatly injured. Art was here required only to enlarge the point of the urethra, which was contracted from the injury. Gentlemen should understand that these cases of ruptured Urethra, from external violence, are very different from those which happen from disease."

J. R. Bedwell,
Senior Pupil to Mr. Fletcher.

Case III.—Lithotomy.

Charles Pride, æt. 50, was admitted into the Gloucester Infirmary with the usual symptoms of stone in the bladder, and upon being sounded, a stone was discovered. His bladder was so exceedingly irritable, that after passing the sound twice, each time he complained of great pain in the lower part of his belly, with tenderness of it, and vomited repeatedly, and his urine deposited an unusual quantity of mucus; so far did this go, that both times he was obliged to be freely leeched, put in the warm bath, and purged. On account of this great irritability of bladder, Mr. F. did not think it right to encourage him with much hope from an operation, but at the patient's own request he performed it. After cutting into the bladder, Mr. F. discovered with his finger, that there were two very large stones in it. There appeared to be no room for the forceps, and from the size of the stones, Mr. F. deemed it necessary to enlarge the opening in the bladder more than is usually done. Luckily, both the stones broke under the forceps, and were extracted by means of that instrument and the scoop, in nearly half an hour.

One other circumstanee may be noted in this operation; the transverse perinæal artery bled so fast, that from the size of the stream, it might have been mistaken for the pudic itself. It must have bled nearly a quart during the operation. It was tied, but being in the track of the operation, the ligature soon slipped off, and the operation was continued without regarding it. From this cause, and the length of the operation, the man became low and cold, and required some brandy. During that evening, he was comfortable. Early the next morning, he began to vomit high-coloured green matter, but was in no pain, except what was occasioned by straining to vomit, in the lower part of his belly and wound. His bowels not being open, he was ordered a powder of Pulv. Rhei. gr. viii. and Pulv. Zinziberis, gr. v. with an effervescing draught. On seeing him in the afternoon, it appeared that he had thrown up the powder, and could keep nothing on his stomach; he was ordered another, but that he also rejected.

An enema of Magnes. Sulphas. and gruel was then administered, but it returned without any fæces; several others were given, but with the same effect. Pulse this day about 120, and feeble; tongue furred and white. In the evening he complained of slight pain in the bottom of his belly, with slight tenderness. Twenty leeches were ordered to be applied. He was very much depressed, and said he felt convinced he should not live till morning. In the morning it was discovered that the nurse had not applied the leeches, in consequence of the patient's expressing a dislike to it. He had vomited greatly during the night. The leeches were applied directly, but did not draw much blood. A Croton Oil Pill was then given him, as his bowels had not yet been opened; but that he also threw up. His pulse was uncommonly quick, and very feeble. Tongue brown. In the afternoon his pulse was imperceptible, so that Mr. F. ordered brandy to be given him in small and repeated doses. In the evening his pulse gradually rose, and in the course of the night, he had stools. He has since that been going on very well.

My father "considers the brandy to have saved him, by maintaining the powers of life until the bowels acted."

R. FLETCHER.

P. S.—The weight of the stones when removed, was found to be between five and six ounces.

[Want of room obliges us to defer our Report of Cases in the Worcester Infirmary, till the next number; we may remark, the last six or seven weeks have been very fruitful of accidents, no less than three primary Amputations, and one secondary, occurring within that period, from severe injuries.—*Editors.*]

ARTICLE XII.

Report of the Cases admitted to the WORCESTER DISPENSARY, *from the* 1st *of January, to the* 30th *of June,* 1828, *inclusive.*

BY ROBERT I. N. STREETEN, M. D.

THE primary object in giving tabular reports of the Cases occurring in Public Institutions, is to afford some general data, from which the comparative prevalence of different diseases may be estimated, and their localities ascertained.

But to render these reports of more extended usefulness, it is not enough to shew that certain diseases are endemic in certain situations, but it is necessary further to point out the peculiarities of these situations, and to endeavour to trace the various connexions existing between the disease and its locality. These important ends cannot be attained, without constructing tables rather more in detail than is customary in such reports. More than one disease may be endemic in the town or district over which the operation of a Public Institution extends; and more than one peculiarity of situation, or occupation, may contribute to the production of the prevailing diseases. Hence it becomes important in the outset, to take more particulars into the tabular view, than the mere name and frequency of the disease will afford.

By a reference to the Essay on the Medical Topography of Worcester, published in the first number of this Journal, it will be perceived, that there is considerable diversity in the circumstances under which different parts of the town are placed; the eastern and western divisions being low, and exposed to the damps and exhalations, arising on the one hand from the river, and on the other from the canal; while the central parts of the city are more elevated, and the air generally less exposed to the action of causes generating moisture. It will also be observed, that the standard manufactures of this city, differ considerably in some of their branches, with respect to the circumstances to which the persons engaged in them are exposed; and consequently, it may be presumed, in the corresponding diseases to which they give rise. A general table, then, would only afford the general results of the whole series of causes in operation; but by endeavouring to insulate these causes, more defined, and consequently, more accurate information will be obtained.

In conducting these reports, therefore, it is intended to classify the diseases, according to their localities, and to take into the tabular view, the sex, age, and occupation of those labouring under them; by which means, together with the influence of season, obtained by the reports being made up quarterly, it is hoped, useful information may be ultimately acquired.

The circumstances which have already been alluded to, with respect to the situation of different parts of the town, will afford the necessary grounds for its division into districts.

The first, or eastern division, will consist of all that portion of the city which is exposed to the exhalations, arising from the stagnant water of the canal, and low grounds in its immediate neighbourhood. This may be termed the Canal District. The second, or Severn District, will include that part of the city, and of the adjoining suburbs, through which the river flows. The third, or City District, will embrace the central and more elevated parts of the town. And the fourth, or Suburb District, will be composed of the surrounding suburbs; the situation of which, especially St. John's and the London Road, being considered above the level of the town, and particularly airy and open, differs considerably from either of the three before-mentioned. In a fifth column will be entered, those few cases which come in from the neighbouring country villages.

Canal District.—This consists of the eastern and southern parts of the city; the canal taking a direction from N. E. to S. W. It comprehends Lowesmore, Spring Gardens, the Blockhouse, part of Sidbury, Church-street, King-street, Frog-lane, &c. on its western bank; and, on the opposite side, Shrub's Hill, Tallow Hill, the Blockhouse Fields, Park-street, Wylde's-lane, the Bath Road, &c. The whole district is damp and low, excepting the line of higher ground on the eastern bank of the canal; but this, from its ascent, being almost immediately from the canal, is equally exposed to the exhalations, arising from the surface of the stagnant water below, as may readily be observed on dewy mornings or evenings, from many parts of the country in the vicinity. The general circumstances, then, of this locality, as far as respects the action of this cause, are nearly the same throughout the district; but some variation is produced, according as the ground is more or less covered with houses, or according to the state of the drains, ditches, and swamps. The houses in Lowesmore, Spring

Gardens, the Blockhouse, and on the east side generally, are for the most part new, and in themselves, with some few exceptions, tolerably airy and comfortable. The streets, also, are neither confined nor narrow, in proportion to the height of the houses. A good deal of the land, however, particularly in Lowesmore and the Blockhouse Fields, is below the level of the canal, and is, consequently, not only almost always damp, but in some places, especially in wet seasons, a complete swamp. One spot in particular, in the immediate neighbourhood of Grainger's China Manufactory, is, from want of drainage, in a very bad state; sometimes partially covered with a thin stratum of stagnant refuse water; at others, as after a few days dry weather, the evaporation of the water exposes a blackish mud or soil, scantily covered with vegetation; while the entire plot is, apparently, the receptacle of all the filth from the surrounding houses. Between this spot of ground and the canal, is a square of houses, at the back of which, immediately beneath the wall, is an open stagnant ditch; with a piece of low swampy meadow land, separating them from the canal itself. Moist meadow land, of a level with, if not below the bed of the canal, connects this part with the Blockhouse. A ditch, usually full of stagnant water, the exhalations from which, on a damp evening, are peculiarly oppressive, skirts along the upper part of this meadow, and is continued in front of some of the houses in the Willow Walk, leading to the centre of the Blockhouse, where, however, it is, for a considerable space, arched over, while a branch from it runs down at the back of the houses, towards the canal. The circumstances of the southern extremity of this district, are somewhat different; the houses being generally old, the rooms small, and imperfectly ventilated, while the streets are narrow and confined. Here are also several lodging-houses for travellers, and these are in the most wretched condition, the rooms being miserably dirty, and the people crowded into them, in many cases, destitute even of the common necessaries of life. In the Blockhouse Fields, on the other side of the canal, the land is considerably below the level of its bed, and in very wet seasons, is partly under water; notwithstanding which, there are a considerable number of houses built there, and new streets are erecting.

The circumstances of this district might be considerably improved, by attention to cleanliness and ventilation on the part of the inhabitants, and to regular draining on the part of the proprietors of the soil. Two of the china manufactories are situated here; Grainger's in Lowesmore, and Chamberlains' in Frog Lane. The city gas works are situated on the canal, at Lowesmore, and are likewise contained within its limits. In the Blockhouse is a large iron foundry. As the workmen at these several establishments reside chiefly in this vicinity, and are affected by the healthiness or unhealthiness of their respective occupations; these circumstances, of course, produce some modification in the prevalence of the diseases to which the district is subject.

Severn District.—The ground in the vicinity of the Severn, is low, and subject to floods during heavy rains; the meadows, at such times, are frequently laid under water, which takes some time to subside after the river has retired within its accustomed channel. The principal inhabited part of this district, is the line of Quay-street, North and South Parade, &c. immediately bordering upon the river; Bridge-street, with its branch streets, Newport-street, Dolday, and Friar's Alley, leading obliquely down to the water, on the eastern bank;

and on the western side, a line of road and of meadow land, which is situated between the river and the higher grounds rising immediately above it. A part of this, comprehending Cripplegate, and St. Clement's Gardens, is removed somewhat farther back, and consequently, not so much exposed to the damp and mists rising from the river; but Turkey and Hylton-street, which lie immediately on its banks, are, with the low meadow, or, as it might be termed, marshy land, at the back, frequently under water, and must necessarily be exposed to all the disadvantages attending such a situation. A dense mist is frequently seen hovering over this spot in the autumnal evenings, which is sensibly felt, on descending from the higher grounds in its vicinity.

The houses of this district, on both sides the river, with the exception of those in Bridge-street, are generally small, and the rooms confined. In Dolday, and the courts and alleys leading from it, they are very close and dirty, with a dense population, many of whom are very poor. Flight and Barr's china manufactory is situated immediately on the river, at the bottom of Fish-street, but many of the workmen at this place, live in the adjoining or City District. In Hylton-street, on the opposite side, there is another iron foundry, a rope walk, and several pits belonging to the skinners or leather dressers, in which the skins for the glove manufactories are steeped; as also a lace factory, and a brewery. A distillery is carried on in Turkey. The banks of the river are occupied with wharfs of various descriptions.

City District.—The land upon which the greater part of the city is built, rises gradually from the river on the one ride, and from the canal on the other; so that the Foregate and High-streets, which run from north to south, nearly in the centre of the city, are considerably elevated above the other parts. This division is intersected by the line of Foregate-street and High-street, running nearly north and south; and by Mealcheapen-street and Broad-street, running east and west; the wide open space, called The Cross, forming the intersecting point. Several of the principal streets are open, airy, and spacious; but this is, unhappily, not the case with many of those which run at the back of them. That part of the city lying between the High-street and the river, comprising Birdport, Merrivale, the Bull Entry, the entries from Copenhagen-street on both sides, Fish-street, &c. in particular, is close and ill ventilated; the houses are dirty, and the inhabitants generally unhealthy. Friar-street, New-street, the Shambles, and the Corn Market, running parallel with the High-street, and bordering upon the Canal District, are more open; but the confined streets at the end of this line, Queen-street, Watercourse Alley, &c. with the narrow intersecting ones, partake of the disadvantages arising from imperfect ventilation, and a crowded population. The Foregate-street is a handsome spacious street, and perhaps one of the most healthy parts of the city; but there is a narrow line of street or lane at the back of it, called the Butts, where the houses are smaller and more confined, and consequently more exposed to diseases, arising from impure air. College-street, Edgar-street, the College Green, and other parts in the neighbourhood of the Cathedral, at the opposite end of this division, are open and airy, and the houses, for the most part, large and commodious.

Suburb District.—This division is, from its nature, subject to some diversity in point of situation, though, from the general level of the land in the vicinity

of the city, being considerably higher than the city itself, a difference may be expected to be found in the causes of disease, to which it is subject. The northern part, comprising the Tything and Barbourne, being a continuation of Foregate-street, is nearly in the same situation with that locality. At the back of the Tything also, there is a continuation of the Butts, placed under similar circumstances with the line of street of which it forms a part; but between this and the river, are several streets and houses, comprising Severn Terrace, the Moors, &c. which, from their vicinity to the river, and low meadow land lying immediately before them, must necessarily be, in some measure, affected by the mists and exhalations arising from these sources.

Rainbow Hill, on the east, is a continuation of Tallow Hill and Shrub's Hill, in the Canal District, but placed out of the sphere of its influence. Merriman's Hill, which is still farther removed, is under similar circumstances; both are open and dry.

The London Road, on the south, lies generally high and open: but there is one part, called the Brick-fields, situated in a slip or valley, nearly in front of Lark-hill, which appears to be rather low and damp; the houses also, are small, and the rooms confined.

The western suburbs of St. John's and Henwick, with Henwick Hill, on the opposite side of the river, are also high and open; and, excepting perhaps, that part lying immediately over the low grounds, in the vicinity of the river, generally free from exposure to damp. There is, however, a stagnant pool, of considerable extent, covered with water plants, and surrounded by reeds and coarse luxuriant vegetation, near the footway, leading across the fields to St. John's turnpike, which must fill the surrounding air with vegetable exhalations. There are in this district, tan-pits, and several skinners' yards, chiefly in St. John's, and at Henwick Hill. The glove manufactories are distributed all over the town.

[*See the annexed Table.*]

From an inspection of these Reports, the most prevalent diseases appear to have been Fever, Bronchitis, Phthisis Pulmonalis, and Dyspepsia. In order to obtain a view of the comparative prevalence of these diseases, in the different districts, the following Tables have been drawn up, and the proportions calculated.

I. FEVER.

	Total.	*1st Qr.*	*2nd Qr.*	*Canal.*	*Severn.*	*City.*	*Suburb.*
Cases of Fever,	42	27	15	21	6	12	3
Total Cases,	380	251	129	120	61	149	39*
Proportions, 1 in	9.05	9.29	8.60	5.71	10.17	12.42	13.00

Deaths, 1. { 1 in 42 of the cases of Fever. / 1 in 14 of the whole mortality.

II. BRONCHITIS.

	Total.	*1st Qr.*	*2nd Qr.*	*Canal.*	*Severn.*	*City.*	*Suburb.*
Cases of Bronchitis,	42	35	7	10	6	23	3
Total Cases,	380	251	129	120	61	149	39*
Proportions, 1 in	9.05	7.17	18.43	12.00	10.17	6.48	13.00

Deaths, 4. { 1 in 10½ of the cases of Bronchitis. / 1 in 3½ of the whole mortality.

III. PHTHISIS.

	Total.	*1st Qr.*	*2nd Qr.*	*Canal.*	*Severn.*	*City.*	*Suburb.*
Cases of Phthisis,	28	22	6	11	6	10	0
Total Cases,	380	251	129	120	61	149	39*
Proportions, 1 in	13.57	11.41	21.50	10.91	10.17	14.90	...

Deaths, 4. { 1 in 7 of the cases of Phthisis. / 1 in 3½ of the whole mortality.

IV. DYSPEPSIA.

	Total.	*1st Qr.*	*2nd Qr.*	*Canal.*	*Severn*	*City.*	*Suburb.*
Cases of Dyspepsia,	58	39	19	16	10	23	5
Total Cases,	380	251	129	120	61	149	39*
Proportions, 1 in	6.55	6.43	6.79	7.50	6.10	6.48	7.80

Deaths, none.

* The remaining 11 Cases occurred in the Country; of which one was a Case of Phthisis, and four were Dyspepsia.

One of the most striking facts on an examination of these results, is the comparatively greater prevalence of Fever in the Canal District, and of Bronchitis in the City District. The proportion of each disease in the Severn and Suburb Districts, is the same; and the total number of cases in each is also the same; the interchange is, therefore, entirely between these two localities, and the causes are, consequently, to be sought in the difference of circumstances under which they are placed.

The great prevalence of Fever in the Canal District, is sufficiently accounted for, by the sources of malaria to which its inhabitants are exposed; but the reason of the very low ratio of Fever cases in the City District, does not so evidently appear; as, with the exception of swampy vegetable exhalations, it is equally, if not more, exposed to causes usually considered to be productive of Fever, with the former locality. The streets are narrower;* the houses are more confined; the rooms closer, smaller, and worse ventilated; the population more dense, and their habits, whether personal, or in their families, less cleanly. The explanation appears to be, that the Fever at present prevailing here, is the production of malaria, and not of contagion; and that, however, under some peculiar circumstances, it may be capable of being propagated from one person to another; yet that generally, there is less danger to be apprehended from this source, than from the exposure to cold, moisture, or vegetable exhalations.

The greater proportion of Bronchitis in the City District, may be supposed to arise from the operation of the glove trade; but this is not borne out by the results, for independently of the glove trade being pretty equally dispersed over the whole town and suburbs, it will be found, that the greater part of the sufferers from this disease, are amongst the glove-sewers, who are not engaged in those branches of the manufacture which are supposed to be the chief cause of the prevalence of these affections. Of the 42 cases of Bronchitis, 20 were engaged in the glove trade; 1 in the china works; 7 in other sedentary occupations; 12 in employments of a more active character; and 2, which were under fourteen years of age, did not follow any particular occupation. Of the 20 engaged in the glove trade, 6 were employed in the leather grinding and scraping, in which the lungs are exposed to an atmosphere constantly loaded

* Of course the back streets are here more particularly alluded to.

with particles of leather, pummice-stone, &c. The other 14 were employed in the glove sewing, a branch which occupies the greater part of the females, not only in the city, but also in the neighbouring villages, for a considerable distance round, and consequently cannot be said to be followed more in one district than in another. And further, the cases of Dyspepsia, which is also a disease induced by the stooping position and sedentary habits of the glove sewers, appear to be pretty equally distributed through all the districts. The extensive operation of such habits in the production of this disease, is shewn, by the fact, that of the 58 labouring under it, 30, more than half, were gloveresses, and 15 of the remainder were engaged in china burnishing, sewing, and other sedentary occupations. Whether the more confined air of the City District will explain the greater proportion of cases of Bronchitis existing in it, or whether other causes may be in operation, must be left to future investigation.

These observations are offered, simply with the view of exciting attention towards the subject, as the data are, as yet, not sufficient to afford any very positive results. There are, however, two more points which may be adverted to, previous to bringing these remarks to a conclusion. The first is the comparative immunity of the City District from Pulmonary Phthisis, to be attributed, perhaps, to the greater warmth, and less variable hygrometric state of the atmosphere in that locality. The other, is the striking influence of season upon both Phthisical and Catarrhal affections, as shewn in the more than double ratio of prevalence during the first quarter, when compared with the second, as well as by the circumstance of all the deaths from these diseases having occurred in the first three months.

Several of the cases entered in the above reports were highly interesting, but want of space forbids any notice of them at present. One however, the case of external perforation of the Duodenum, will be found detailed in the preceding number of this Journal.

(We are obliged to defer the publication of the Tables which should accompany this Article, till the next number.—*Editors.*)

ARTICLE XIII.

Remarks on SELF-SUPPORTING DISPENSARIES.

OF the several benevolent schemes which attract the attention of the Political Economist, the Philanthropist, and the Medical Man, we conceive none can possess stronger claims to consideration, than a well-devised means of ameliorating the condition, and elevating the character, of the lower orders of Society.

We were, on this ground, much gratified on the 23rd of December last, by hearing Mr. Smith, of Southam, lecture at the Town Hall, in Worcester, on the plan by which he proposes to establish Self-supporting Dispensaries throughout the kingdom at large. The experiment has answered so well where it has hitherto been tried, that we are anxious it should receive every consideration which, from its importance, it is so well calculated to command. To many of our readers, no doubt, the subject is not new; the author of the philanthropic and enlightened plan in question, having, for some years, been unwearied in his endeavours to bring it before the tribunal of the public. Partial

accounts of it have appeared in the Periodical Press, and some tracts have been devoted to a statement of its leading features. The plan has, for its basis, the great principle on which the social compact is formed, that men of every rank and condition are called upon to assist, by every practicable means, in lessening the necessary evils and contingencies, to which, as individuals, we are exposed; and is also in strict accordance with the spirit of that excellent Christian Precept, "Bear ye one another's burthens." We also consider it simple in detail, and as being susceptible of application to the numerous Charitable Establishments, justly the boast and admiration of this age and nation, so as incalculably to increase their utility, and enlarge the sphere of their operation. We need, therefore, offer no further apology for submitting to our readers a succinct account of the principles developed by Mr. Smith, in his Lecture on the occasion alluded to.

The Lecturer commenced by pointing out the importance of the subject to the Legislator, inasmuch as the labouring poor have the strongest possible claims to his protection, especially during sickness. He also enforced the consideration, that one of the commonest causes of pauperism, although little adverted to, is sickness.

Hospitals and Dispensaries can never, he observed, reach the numerous instances of disease incident to a poor population, and if they could, they are objectionable, as they tend to destroy that self dependence which it is a chief object to cherish. Moreover, the honest poor should not be debarred the privilege of choosing their own medical attendant. The system of farming the poor and the parish doctor, he expatiated upon as peculiarly productive of evil, both to the profession and the sick poor, and he maintained that the charges of medical men, though usually moderate, cannot be paid by the poor, and the pecuniary advantages derived from attending them, are nominal, not real.

The Lecturer then proceeded as follows:—"It is to the practicability of a great reform in each particular, that I wish now, Ladies and Gentlemen, humbly to direct your attention, and it is with the fervent hope of being able to carry it into general, and even national, operation, a union of justice and mercy without confusion, that I have presumed to invite your attendance on this occasion.

The principle features of the plan which I have to propose to you for this purpose, are these:—

I.—That there shall be established in every town and considerable village throughout the country, (with the concurrence of the principal inhabitants,) a District Dispensary, for the exclusive benefit of the labouring poor in its vicinity.

II.—That all mechanics, labourers, and servants, of both sexes, should be invited to become Subscribers to these Institutions, and be entitled to Medicine and Medical Attendance, in all cases of bodily sickness or injury, (when unable to attend at the Dispensary,) at their own dwellings.

The rate of subscriptions should vary with the number of subscribers—and the rate of wages and provisions in different parts of the country; but it need not, probably, in any part, when wages are at the highest, exceed 4s. 4d. annually, or a sick penny weekly; and it should be collected by quarterly, monthly, or even weekly instalments, so as to suit the convenience of the poorest, and leave none with a pretext for not participating in the benefits of the Institution. In fact, as I hope to satisfy you, the arrangements of the Institution may be made so inviting as to render it an object of desire for all ages and degrees amongst the working classes to belong to it. These I would divide into *three* classes; the *blue*, or those who are free subscribers; the *white*, those who are recommended by honorary subscribers; and the *yellow*, those who are recommended by the parishes.

III.—That children shall be admitted as Members for half the amount of the sum paid by adults.

IV.—That Parishes shall be allowed to subscribe on behalf of their sick poor, at the rate of £2. or £3. for every 100 of their population, or at such other rate as the managers of the Institution shall see proper to fix, from time to time. The rate may be increased according to the distance at which the parishes may be from the Dispensary—or the extent of advantages each parish may embrace for its poor.

V.—That Honorary Subscriptions shall also be received, which shall entitle the subscribers to recommend two patients for every guinea subscribed; these patients should be the aged, who are unable to pay for themselves.

VI.—That the management of each Dispensary shall be vested in a Committee, of at least 21 persons, chosen annually from amongst the Subscribers of one guinea and upwards.

VII.—That every regular Practitioner shall be allowed to enrol himself as one of the Medical Officers of the District Dispensary; his testimonials, certificates, &c. as well of character as professional attainments, being satisfactory to the Committee, who will appoint the time from which his remuneration shall commence—but that each patient, whether free, charity, or pauper, shall have the privilege of choosing which of the Dispensary Surgeons he shall consult or employ.

VIII.—That the Medical Practitioners attached to the Dispensary, shall attend there during certain appointed hours, in daily rotation, for the purpose of giving advice; the Dispenser shall likewise attend in the same manner; Patients shall also be entitled to be visited at their own houses, when unable to attend at the Dispensary.

Lastly.—That after the expenses of medicines, wine, cordials, occasional nurses, collectors' per centage, visitors' distribution money, messengers' hire for distant parishes, and all other demands on the funds, be paid, the remainder, deducting £50. to be kept in hand for the current expenses, shall be divided between the Medical Officers of the Establishment, in proportion to the

number of patients attended and miles travelled, or visits made, of which each Gentleman shall allow the Secretary to make a weekly extract from his Dispensary day book; or the Dispensary day book may be open for the use of all parties, and have a separate column for the use of each, by which means the allowances may be calculated.

Surplus funds may be applied to assist in purchasing annuities, or funeral expenses, or apprenticing delicate children.

As my object is to afford as plain a view as I can of this new social arrangement, I shall divide it into four parts. The funds, the objects, the officers, and the expenses, premising that three grand principles are to be kept in view, and the detail may occasionally vary to the state of the wages in the country in which it may be established; the rate at which parishes may have been accustomed to pay, or as it may affect other valuable Hospitals or benevolent Institutions. The three principles are,

I.—Bringing the terms so low, that they may be within reach of the greater part of the *blue* population that are obliged to work for their daily bread.

II.—Paying Medical Men for time, instead of drugs.

III.—Shewing indulgence to all persons that have made this attempt to preserve their self-dependence.

The funds are derived from Honorary Subscribers, Parishes, and Free Members; to supply Drugs, Medicines, and other necessities and comforts in a time of sickness.

The objects are those of the lower orders, who are obliged to work for their bread; who subsist by the bounty of others, or who are maintained out of the poor rate.

The Officers are, the Committee, Physicians, Surgeons, Dispenser, Matron, Nurses, Messengers, Collectors, Secretary, &c. &c.

The Expenses are, Rent, Wages, Collectors', Secretaries', Housekeepers', and Dispenser's per centages; Drugs, Coal, Stationery, &c.; and lastly, Physicians' fees, and Surgeons' surplus; subscriptions to Hospitals and Dispensaries.

Several subordinate arrangements would be necessary for the Committee to make, but it may be needless to trouble you at present with them, (though I have them fully prepared for an establishment of the largest size.) I trust I have made the nature of the change I would see introduced, as plain and intelligible as I conceive it to be important and beneficial, and I sincerely believe that no system could be introduced, that would go so far in the distribution of its benefits, or exert such an energetic influence in renovating and sustaining the frame of society amongst us. It possesses, if I mistake not, the favourite characteristic of the best human plans; namely, that of effecting a great good with the simplest means; nor am I aware of its being even liable, in producing that good, to the charge of threatening a single evil. As I before stated, the plan is not merely the fruit of speculative reflection, but has been already partially, but

successfully reduced to practice in the town of Southam, where I reside, and at Atherstone, in Warwickshire."

We cannot but greatly admire the disinterested devotion to the cause of humanity, which has enabled Mr. Smith to bring his plan into its present partial operation. No ordinary ardour could have surmounted the difficulties he has, on all sides, encountered. The success of his plan has been in peril from his own profession, many of whom have thought, erroneously thought, that it was likely to diminish the hard earned emolument which they scantily gather from the sick poor. In peril from the short sighted and griping overseer, who has been offended that the enormous abuses of the system of farming the sick poor, should have been so unceremoniously exposed. In peril from the desertion of some of the magistracy, who originally favoured the scheme, but were frightened by the injudicious representations of men ignorant of the peculiar advantages to be derived from the pursuit of this desirable object. In peril from that cold-hearted indifference with which all new proposals are regarded by a vast majority of the community at large.

But we entertain a strong conviction, that, at no distant day, the plan will meet with general approbation. Even now, after having persevered for a series of years, through evil report and good report, in maintaining the soundness of his principles, and their easy application in the present state of society, Mr. Smith may be said to have arrived at that point of his labours, where he can look back, and adduce examples to prove that his system works well; and he has thus already insured to himself the gratitude of all those who are interested in converting the paralized and lazy pauper, into an active and industrious citizen. We may venture to express a hope that Mr. Smith will pursue his course undismayed by prejudice or opposition of any kind, and we then confidently anticipate that his efforts will be crowned with success as brilliant, as the cause is good in which he is engaged.

ARTICLE XV.

MISTAKE of the LONDON MEDICAL & PHYSICAL JOURNAL.

AMONGST the many flattering encouragements we have experienced at the commencement of our career as Journalists, few have afforded us more pleasure than the tacit acknowledgment of the value of our practical information, afforded by the readiness with which cotemporary Journals of established reputation, have reprinted our cases and hospital reports.

As our main object is to promote knowledge, and to facilitate its attainment, we cannot regret that we have been thought deserving of being conveyed through more channels than one to public notice. Still we think that, if our facts and observations be of sufficient value to enhance, by their adoption, the reputation of other Journals, the least our complimentary friends can do, is to allude, in some shape or other, to the source of their new current of information.

We care not whether it be acknowledged in *large* type or *small;* whether the notice be prefixed or annexed to our engrafted articles; whether the reference be so full that it cannot be mistaken, or so meagre as to be barely intelligible: but some acknowledgment we expect, and expect, we think, nothing more than is due to us, or than we should readily concede to others.

These remarks have been called for, by our finding, with regret and astonishment, that the Editors of so respectable and long-established a periodical work, as the London Medical and Physical Journal, have, in their number for December last, under the head of Hospital Reports, reprinted three cases from our Journal, in such a manner as to make them appear like original communications to theirs. We allude, first, to "a case of dislocation of the right hip, with compound fracture of the left leg," treated by Mr. Sheppard, at the Worcester Infirmary; secondly, to "a case of tumor over the orbitary plate of the frontal bone," communicated by Dr. Malden; and lastly to "a case of fungus hæmatodes of the breast," communicated by Mr. Fletcher, of Gloucester. All of these cases the London Medical and Physical Journal has published as original contributions.

With regard to the last case, we have, indeed, a heavier charge to bring against the Journal in question, which, to suit its own purposes, has taken the liberty of making an alteration in the statement of the case. The case treated by Mr. Fletcher, occurred in private practice, and consequently, was never within the walls of a public hospital; but, in order to adapt it to the department of their Journal entitled Hospital Reports, the Editors have thought proper to state, that the Lady returned, in July, 1828, not to Gloucester, but to the Gloucester Infirmary, (in capital letters.)

We sincerely hope that these observations will have a tendency to prevent such OVERSIGHTS for the future: for, if we have a rising reputation, (and we address those who ought to have a fellow-feeling for us,) we are naturally jealous of it; and if our facts, cases, or observations, be worth *transferring*, to use a mild term, they are certainly worth acknowledging: and, to tell the truth, we are possessed sufficiently with the "infirmity" "that scorns delight and lives laborious days," not to submit patiently to such unfair treatment as called forth the well-known complaint of the Bard of Mantua, "Hos ego versiculos feci, tulit alter honores."

ARTICLE XVI.

Summary of METEOROLOGICAL OBSERVATIONS *made near* WORCESTER, *in the Months of* OCTOBER, NOVEMBER, *and* DECEMBER, 1828.

BY JOHN WILLIAMS, ESQ. OF PITMASTON.

OCTOBER commenced with a mild, soft, pleasant temperature, the Thermometer rising to 60° at noon. The gradual fall of the

Barometer, after the morning of the 3rd, gave notice of the south-wester, which commenced on the 5th, and continued till the evening of the 8th, the greatest depression of the mercury during the storm, did not exceed 29 30, and on the subsidence of the gale, it shortly resumed its mean height, which exceeded 30.0 inches till the end of the month. The windy, cloudy, or foggy nights, prevented frost, till the morning of the 20th, when a *clear sky*, and the *absence of wind*, had the usual effect, (the loss of caloric by terrestrial radiation,) and the gardens in the vale districts were despoiled of their dahlias and tender flowers, by the frost. The greatest heat was on the 22nd, 63°, and the daily maximum was reduced about 8 degrees, from the 27th to the 31st, by a north-easterly wind.

The first seven days of November were mild and cloudy; the 8th brought a sudden change, caused by a brisk south-easterly wind, which reduced the Thermometer to 34° at 8 a. m., and 37° at noon; cold weather prevailed, with several clear, calm nights, giving a mean of 28° at 8 a. m., and 43° at 2 p. m.; during this period, the Barometer was depressed, but gradually resumed its fair weather station on the 14th. The latter half of the month was peculiarly mild, with south-westerly winds, 45° in the morning, and 55° at noon. This regular warmth from the Atlantic Seas, caused vegetation to continue vigorous, the meadows and turnip fields having the verdure of spring.

December opened with a cold north-east wind, which turned on the 3rd, to the south-west, and prevailed, with little intermission, till the end of the month, 50° to 55° at noon, being the ordinary range of the Thermometer; and it is not a little remarkable, that the 21st, the day on which the solar rays have least influence, proved the warmest, (60° at noon). The Barometer was rarely much depressed, except during gales of wind; we had a moderate supply of rain, but no floods, and the nights being either cloudy or windy, there were but three mornings on which frost appeared on the grass. The only cold days were those *when the wind came from the south-east*, a proof, if any was wanted, that the *unusual mildness experienced throughout this month, was caused by the prevalence of the Atlantic winds.*

ARTICLE XVII.

Summary of Meteorological Observations, at Hanley Green and Malvern Wells.

BY JAMES LEWIS, SURGEON.

September.—The Barometrical mean, for the first eight days, was 29° 83′, that of the Thermometer, at 8 o'clock, a. m. 64, and at 12 at noon, 69. Wind varying from N. W. to S. W. and S. E.; weather cloudy occasionally, but mostly fair. From the 9th to the 14th, a considerable quantity of rain fell, the Barometer ranging between 29° 55′, and 29° 10′; but on the 15th, it rose to 30° 25′, and from that date till the 26th, the mean was 29° 80′; that of the Thermometer, at 8 o'clock, a. m., 56, at 12 at noon,

63. Weather bright and beautiful for the season. The last four days, the Barometer sunk considerably; the Thermometer rising a little. Weather dull, with slight showers at intervals.

October.—The first fortnight of the month was marked by a variety of weather, two days being scarcely alike; clouds and sunshine, fog and rain alternately prevailing. The Barometer averaged 29° 45′, mean of the Thermometer, at 8 o'clock, a. m. was 50, and at twelve at noon, 52; wind principally S. W. The 18th, 19th, and 20th were remarkably fine days, the latter frosty; some rain fell on the 22d. The remainder of the month was dull, with the exception of two or three days. Barometrical mean 29° 54′; Thermometer, at 8, a. m. 47, at 12 at noon, 55; wind S. W. and S. E.

November.—The commencement of this month by no means verified its frequent appellation, "gloomy November," as, with the exception of two days, the weather was unusually bright for the season; the mean of the Barometer, for the first six days, was 29° 60′; that of the Thermometer, at 8 a. m. 49, at 12 at noon, 59, wind S. E. and S. W. On the 9th, 10th, and 11th, we experienced severe frost, the Thermometer, on the latter day, at 8, a. m. being 28, and the wind changing to N. E. From the 12th to the 18th, the Barometer ranged between 28° 95′, and 29° 10′, the Thermometer varying from 38 to 50. Weather alternately fair and cloudy, with a little rain occasionally. The 19th, 20th, and 21st, were marked by high and bleak winds; atmosphere bright; the following week, the weather mostly dull, with rain; but the two last days were beautifully bright, and November left us, as it greeted us, with a cheerful aspect.

Dr. Hastings is preparing for the Press, a second and enlarged Edition of his Treatise on Inflammation of the Mucous Membrane of the Lungs.

NOTICES AND ACKNOWLEDGEMENTS.

The next number will contain an Essay on Spinal Irritation, by Dr. Darwall; and Observations on Otorrhæa, by Dr. Burne. Communications have been received from Mr. Davies, of Pershore; Dr. Walker, of Huddersfield; Mr. Waldron, of Bath; Mr. G. Jones, of Alcester; Mr. Corbet and Mr. Rose, Veterinary Surgeons. Dr. Loudon's account of Leamington Spa has been received.

The Reports of the Ledbury Dispensary, by Mr. Selwyn, and Kidderminster Dispensary, by Dr. Jones, came too late for insertion in the present number.

The Parochial Returns of the present quarter, were received too late for insertion.

The Fourth Number will be published on the 1st of May, 1829; and the succeeding Numbers Quarterly.

All Letters and Communications, addressed, free of expense, (under cover,) to the Editors, at the Office of the Worcester Journal, will receive immediate attention.

THE MIDLAND

Medical & Surgical Reporter,

AND

TOPOGRAPHICAL AND STATISTICAL JOURNAL.

HOMO, NATURÆ MINISTER ET INTERPRES, TANTUM FACIT ET INTELLIGIT, QUANTUM, DE NATURÆ ORDINE, RE VEL MENTE OBSERVAVERIT; NEC AMPLIUS SCIT, AUT POTEST.—BACON, NOVUM ORGANUM.

No. IV. MAY, 1829.

OBSERVATIONS ON ENGLISH HOSPITALS.

BY J. K. WALKER, M. D. HUDDERSFIELD.

[CONTINUED FROM PAGE 148.]

IN submitting some account of the rise and present state of English Hospitals, it was my wish to have recorded the Medical practice of each Institution, as well as any peculiarities in the diseases incidental to those districts where they are situate; but the vast field of observation which presented itself, and the encroachments I had already made on your valuable pages, compelled me, at least on the present occasion, to decline the attempt. I found, too, that with every disposition to condense the subject matter of the present essay, the historical department alone was too much to be executed, with that fidelity and amplitude of description which its importance demands, within the limits of a paper like the present. I have contented myself, therefore, with a slight sketch of the origin and progress of the Medical Charities of our country, such as may assist, but not supersede, the future labours of some abler pen. I trust, too, that, through the medium of your useful columns, this subject may meet with greater attention than it has hitherto done, and that the many interesting cases which are of daily occurrence in our provincial Hospitals, may thus reach the eye of the Profession at large.

It is of the last importance, indeed, in a manufacturing country like ours, where the employments of the poor, and the processes used in some manufactories, are often prejudicial to the health, to communicate any local peculiarities in the diseases of the poor, arising from this cause; as there is scarcely a county that has not one or more Hospitals, it is our own fault if we do not take advantage of this wide field of experience, to investigate

the salubrity or insalubrity of various localities, the influence of soil and climate, of marshy or dry situations, of woody districts, and such as are cleared and cultivated, the nature of endemics, &c. These, and many other topics of a similar nature, have scarcely met with that attention which they deserve, and which they must receive, if we expect to arrive at a more correct knowledge of the Medical Topography of our Island. We have now the opportunity, in our different Medical Establishments, to collect that preliminary body of evidence essential to the investigation of this subject, the want of which has long been an "Hiatus valde deflendus" in the Medical Literature of our country.

Waving these subjects, however, for the present, I shall now resume the account of our Provincial Hospitals, at the period it was discontinued in your last number.

I have already stated that the 18th century is memorable in the annals of Medical Charities, for the number of Hospitals it gave birth to. The earlier Institutions had not long been established, before their importance to the community, as well as to the sick poor, began to be generally appreciated, and the expediency of similar establishments, in the more populous towns of the Empire, was felt and acted upon. The means hitherto employed for the relief of the sick poor, were found to be inadequate. Among the foremost of those towns that caught the generous flame, the town of Worcester stands conspicuous. The account of that excellent Institution in your second number, is so full and comprehensive, as to supersede any observation on my part; and whoever has perused that able description, will recognise in it, a faithful representation of the difficulties which usually impede the progress of similar Institutions, and above all, a noble example of the spirit in which they ought to be met.

It is with pleasure I bear testimony, from personal inspection, to the excellent manner in which this charity is conducted, which, as respects the cleanliness and comfort of the wards,* the skill and humanity of the medical officers, and its general economy, will bear a comparison with any Institution of a similar kind in the Kingdom.

The next Institution to which I shall call your attention, is the Manchester Infirmary and Dispensary. To describe the many useful establishments in that munificent town, would fill a volume, but this charity crowns the whole. The foundation for the first edifice was laid in 1753, when only £250. had been subscribed towards it. The plan for admitting 40 patients was afterwards extended to 80, and since that time, to 160. In ten years after-

* I was happy to find, in your account of the Worcester Infirmary, that the Medical Board had memorialized the Governors on the subject of increasing the number of Wards, for the more effectual classification of the patients. Almost all the older structures originally laboured under the defect of too large wards, which prevented a proper separation of the worst cases from those less severe. This alone was wanting to render it complete, which, indeed, appeared to be the opinion of Dr. Hastings at the period I visited this Institution.

wards, the Lunatic Hospital and Asylum were erected, but placed upon a separate establishment. Before the year 1781, the out-patients were relieved on attendance at the Infirmary, as is the case elsewhere, but as the population increased, and the objects being too numerous to admit within the walls of the Infirmary, a number of cases were admitted under the name of Home Patients, who were visited by the Medical Officers at their own dwellings.

This, though a material accession of duty to the faculty, was a great blessing to the poor, for it cannot be denied, that a mode of relief which keeps the branches of a family from being separated, *where it is practicable*, is always the best. Surrounded by those he holds most dear, where else can the sufferer meet with that tenderness and those consolations, that await him in the bosom of his family. Besides, to remove such objects, without a paramount cause, is to withdraw what were designed to be salutary beacons of mortality from the eyes of those most likely to profit by them. The efficacy of this system became so apparent, that in 1792 a Dispensary was added, and the town divided into districts, for the convenience of the Medical Officers. It is worth recording, that the collections for this object, which were made at the different places of worship, amounted to more than £4000.

The House of Recovery is established in Aytown-street, and has existed since 1796, at which more than 12,000 have been admitted from the commencement. It extends its agency not only to Manchester, but to all its neighbourhood for three miles round, as far as patients can conveniently be brought. It is an important fact, that the Manchester House of Recovery, though situate in the centre of a dense population, (where cotton mills abound, and where so many sources of contagion are concentrated,) diminished in one year the average of fever cases from 471 to 26; the fever cases of the General Infirmary to one fourth; and the proportion of mortality under the fever, from a ninth to an eighteenth. As to the total of patients in the Infirmary, before and after the establishment, it appears that in the year preceding the establishment of fever wards, from June 1795, to June 1796, the number admitted was 2880; in the succeding year it was 1759, and in the year following, only 1569. Such, too, have been their happy effects in other towns. In very large towns, where the population and opulence admit, there can be no doubt of the propriety of establishing two distinct and independent Institutions; but in smaller towns, the annexation of distinct wards is perhaps sufficient, with a separate and distinct entrance, as is the case with the Derby and Chichester Infirmaries.*

The 68th rule of the Manchester Infirmary, directs "that a Clerk or Clerks be appointed to the Physicians, who shall attend upon the Home Patients, as they shall direct, and report the

* The Eye Infirmary was established in 1815, and annually admits about 1600 patients, of whom, in the Report before me, there are 22 in-patients, and the number discharged cured amounts to 1400, and relieved 102.

patient's case to the Physicians; and they shall also attend upon the *out district* home patients." Under this last class are included all those cases requiring to be visited at their own homes, yet living out of the prescribed distance. This class, however, is confined to cases which require medical, *not surgical* aid. No surgical case, therefore, can receive an out district home patient's recommendation, and no out district home patient be visited by the Physicians.

The increasing use of machinery in this manufacturing district, has increased the number of accidents among the working classes, a great proportion of which receive relief at the Infirmary. An extract from the reports of four different years, exhibits an appalling amount of accidents, and furnishes a practical proof of the utility of the charity I am now describing.

Accidents admitted at the Manchester Infirmary.

From 1820 to 1821, — 2200
1822 to 1823, — 2100
1824 to 1825, — 2702
1825 to 1826, — 3046
Making the sum total 10048 in four years.

The amount of Patients admitted during the same years, was as follows:

	In P.	*Out P.*	*Out district Home P.*	*Home P.*	*Fever.*	*Total.*
From 1820 to 1821,	1067	8912	2350	571	345	13245
1822 to 1823,	1248	8972	2176	508	316	13220
1824 to 1825,	1292	9062	2143	489	667	13653
1825 to 1826,	1183	10700	2534	763	658	15838

I have included the fever patients in this enumeration, as they are supplied with medicines from the Infirmary, and attended by the same medical officers.

The following is the last week's Report of this Institution.
January 12th, 1829.

Inoculated for the Cow Pox,	10	In-Patients admitted,	34
Relieved,	0	Out-Patients,	136
Made Out-Patients,	14	Home-Patients,	103
Home-Patients discharged cured,	18	Accidents,	65
Dead,	2	Patients in Infirmary,	151
Made In-Patients,	1	In Lunatic Asylum,	55

In the weekly report of the Salford and Pendleton Dispensary, January 23, 1829, the number on the books amounted to 672. This last Institution is of recent origin, and extends its operation to those parts more remote from the Infirmary. Such is a brief account of the principal Medical Charities, which shed a radiance around the name of Manchester.

The commercial importance of Liverpool, which, from a small inconsiderable hamlet, had become, in the course of the last century, an emporium of wealth, soon led to the establishment of a Public Infirmary, on a scale commensurate with the wants of the poor, and the resources of that thriving sea port. It was in the year 1745, that certain individuals formed themselves into a Society for the purpose of erecting, by voluntary contributions, an Infirmary for the relief of the sick poor. It was not, however,

opened before the year 1749, and subsequently, accommodation was provided for more than 100 beds, which number has been increased from time to time, as the increasing benefactions of the public furnished the means. This building was occupied by the sick poor for more than half a century, and in the year 1823, there had been admitted, since the opening of the house in 1749,

In-Patients,	56,351
Out-Patients,	52,159
	108,510

and the number of patients admitted into the Lunatic Asylum, since the opening of the house, amounted to 1661.*

It should be mentioned, too, that the Dispensary, since its commencement in 1778, had given annual admission, on an average, to 15,000 patients. There are, however, three Dispensaries, (the north, central, and south,) which have been productive of incalculable benefit to the poor. In the year 1826, more than 32,000 patients had been admitted since the last year's report, of whom 9,604 were visited at their own homes.

The Governors finding that the old building, hitherto used for the Infirmary, was inconvenient, and insufficient for the increasing number of patients, to say nothing of its dilapidated state, determined that a new and more commodious building should be erected; an appeal was made to the generosity of the public, for the purpose of raising a fund to realize this project, and it is needless to say how nobly that appeal was answered. The new Infirmary, which has since been fully occupied, is a credit to the taste and the munificence of the town, and the removal to a better air has been found most beneficial to the health of the patients. The report of 1827 states, that progressive improvements were then making in the interior arrangements of the house, and in promoting the cleanliness of the wards. "The principal inconvenience," says the report, "arises from the crowded state of the beds, which are placed too close together, and in some instances, are *doubly tenanted*." The number of accidents has been unusually great, and as no patient of this class is ever refused admittance, further accommodation is necessary, which the new building will afford the means of providing.†

* The wings were intended to form an Asylum for decayed seamen, and their widows and children. This charity was supported by a draw-back of 6d. per month from the wages of every mariner belonging to the port, or sailing out of it, like the Royal Hospital at Greenwich.

† On a review of the rules of the Liverpool Infirmary, I was struck with the peculiarity of that relating to the election of the Medical Officers, which, if I am not mistaken, differs from other Institutions in this respect. The 6th rule says, "that three Physicians and three Surgeons shall be *annually* elected to attend the Infirmary and Asylum." This rule appears to me most impolitic, as regards the real interest of the Institution, and of the Medical Profession. The mischief of this system will be apparent to every one who views the subject in all its bearings.

The ground destined for the erection of a new Lunatic Asylum, is enclosed with a lofty and substantial stone wall, and as the plans have been long since before the Committee, it is expected that no further delay will take place in adding one more to the many monuments of charitable munificence which every where meet the eye of the stranger in this opulent and enterprising town. The following is a statement of Infirmary patients, admitted and discharged from 1st January, 1826, to 1st January, 1827.

In-Patients on the books, 1st January, 1826,		198
Admitted since,		1776
		1974
Discharged.		
Cured,	771	
Made Out-patients,	707	
Relieved, and at their own request,	69	
Incurable, and to the workhouse,	23	
Irregular,	104	
Died,	89	
Remained in the house,	211	
		1974
Out-patients on the books, 1st January, 1826,		232
Admitted since,		828
		1060
Discharged.		
Cured,	493	
Made In-patients,	171	
Relieved,	189	
Incurable,	19	
Non-attendance,	53	
Died,	26	
Remaining on the books,	109	
		1060

The weekly average number of patients, was 203.
The average per week of patients at the Lunatic Asylum, during the same year, was 51.

On a review of the Medical Charities of Liverpool, therefore, it appears that in the year 1826, little less than 36,000 objects received medical aid.

The Infirmary at Chester took its origin from a bequest of £300. left by Dr. Stratford, Commissary of the Archdeaconry of Richmond, and has been increased by voluntary contributions. Before the present building could be prepared for the reception of patients, a temporary Infirmary was established in Northgate-street, in the year 1756. The new Infirmary was opened on the 19th of May, 1761, and such was the patronage of the public, that the number of beds was subsequently increased to 100, and the weekly average of patients now amounts to about 64, and the number of patients annually, in and out, to nearly 3000. The annual subscriptions exceed £1100. The utility of this Institution was increased a few years ago, by the admission of Fever Patients, for whom two distinct wards were appropriated in the attic story,

and every precaution employed to prevent the propagation of infection to other parts of the house.*

The General Infirmary at Leeds† was founded in the year 1767, when the first stone was laid by Edwin Lascelles, Esq. afterwards Lord Harewood; and on the 5th of March, 1771, it was opened for the reception of patients. At this period, the population of Leeds was about 17,000, and the number of beds at that time, was 24. Mr. Howard, who visited Leeds in 1788, says, "this Hospital is one of the best in the kingdom, and that many here are cured of compound fractures, who would lose their limbs in the unventilated and offensive wards of some hospitals." In the year 1817, however, such was the increase of population and value of building ground at Leeds, that some apprehension was entertained of the too close proximity of other buildings, and a quantity of land at the south front, was purchased to protect it from annoyance. This circumstance shews the expediency of securing, in the first instance, so ample a portion of surrounding land as to avoid the possibility of all future intrusion. The Trustees are indebted to Fontayne Wilson, Esq. one of the representatives of the county, for the present of an additional portion

* The following account of the Chester Infirmary and Fever Wards, was written in the form of a certificate, to be signed by the Medical and other Governors of the Infirmary, to obviate the alarm at Manchester, lest the House of Recovery there, placed in a spacious area, should communicate the infection to the adjacent habitations. "The Chester Infirmary is a close square building. Its inner area is 18 yards and a half by 14 yards. The attic story of all the north side of the house, divided into two wards, has been appropriated to the reception of patients in infectious fevers, ever since the year 1783. Patients that have no fever, are lodged under them, and on the other sides of this area. The windows of the fever wards, during the day, are almost constantly open into all the other wards, one ward is situated *within* 13 *yards of the fever patients*, with whom it communicates on the same floor, by a passage and doors frequently open; and yet, during the whole period of this establishment, now about 12 years, it has never been suspected that the patients in other parts of the house have caught any infection from the fever wards, by any contamination of the atmosphere; nor from any transgression of the rules of prevention, which require ventilation, cleanliness, and separation, &c."

† The rules of the Leeds Infirmary are, on the whole, similar to those of other Institutions; but the 18th rule invests the appointment of the Apothecary in the Physicians and Surgeons. This deviation from the ordinary practice was adopted by the advice of the late Mr. Hey, than whom, no man was better qualified to offer an opinion on such a subject. This stipendiary officer had been formerly elected by the Trustees at large; but on hearing Mr. Hey's representation of the benefits that would probably result from the change, they acquiesced in the proposed alteration. This conduct of the Trustees, in relinquishing their right of voting upon this occasion, and transferring the power of electing into the hands of those who are alone duly qualified judges of the proper person to be invested with the office of Apothecary, offers a fine example of disinterestedness, and merits the warmest praise.—Vide Pearson's Life of Mr. Hey.

of land, consisting of 4000 square yards, which is laid out as a pleasure ground, and contributes not less to the ornament of the surrounding neighbourhood, than to the benefit of the Infirmary. The population of the borough of Leeds, amounts at present to about 100,000, and the number of beds in the Infirmary have increased to 130. The total number of in-patients admitted last year, was 1,558, and of out-patients, 3,465; and the annual expenses amounted to £4,086.

The Treasurer having recently traced the gradual progress of this charity, from its institution to the present time, it may not be amiss to lay before your readers the following statement he has made of the number of patients, income, expenditure, and cost per head, for every fifth year, commencing with 1770, the fourth year from the foundation.

Year.	*In P.*	*Out P.*	*Total.*	*Income.* £.	*Expend.* £.	*Cost per head.* £. s. d.
1770	140	484	624	503	303	0 9 8
1775	271	617	888	323	761	0 17 2
1780	370	927	1297	931	1047	0 16 2
1785	502	972	1474	1312	1282	0 17 4
1790	502	942	1444	1995	1641	1 2 8
1795	635	994	1629	2682	2204	1 7 0
1800	750	1525	2275	2284	2606	1 2 11
1805	650	992	1642	2859	2717	1 13 1
1810	764	1287	2051	2947	3012	1 9 0
1815	798	1648	2446	3617	3370	1 7 0
1820	1108	3265	4373	5208	4691	1 1 5
1825	1574	3507	5081	4645	5000	0 19 8

It will appear from the above statement, that the annual number of patients, both in and out, is doubled in the course of the last ten years, and more than eight times the number of the first year, which, indeed, corresponds pretty nearly in proportion with the population of the two extreme periods.

Another important and gratifying observation, that the contributions to this charity produce a greater quantum of benefit, at the present time, than at any period for the last 40 years; the average cost of the patients for the last year, being only 19s. 8d. per head.

The House of Recovery in Leeds, for the reception of fever cases, was erected by public subscription, in 1802, and the report of each succeeding year, has tended to prove its beneficial influence on the health of this populous town. The public Dispensary was established in 1824, and administers relief to the sick poor in their own dwellings, where removal to the Infirmary is not deemed necessary. From the report before me, it appears that, during the past year, 2642 individuals have been admitted to the benefits of this charity, and the expenditure incurred during the year, £585. 11s. 5d.

The Infirmary at Hereford, for the relief of the sick poor of that county, was erected for the reception of 70 patients. The spot of ground on which the Infirmary was built, was given by the late Earl of Oxford. Its situation is excellent. The expense

of the building, &c. (amounting to nearly £4000.) was defrayed by a very ample subscription raised amongst the nobility and gentry of the county. The average annual subscription exceeds £600. and the annual expense per bed, about £23. It was first opened for the admission of patients on the 26th March, 1766. The Lunatic Asylum is situate on the north-east of the Infirmary, at some distance from it, and provides accommodation for from 20 to 30 patients afflicted with insanity.

The Infirmary at Lincoln (whose population in 1821 was 10,367, but of the whole county, 288,800,) was erected by public subscription in the year 1769, for the reception of the sick and lame poor. The expense of its erection amounted to nearly £4000. The number of beds, from 40 to 50, and the average annual expenditure has been about £1000. In the report before me, the annual subscriptions do not exceed £800. and the total donations, from the foundation of this charity, from 1769 to 1824, fall short of £7000. The management of this Hospital, at the period I visited it, was such, in all its departments, as to do great credit to the Medical Officers, and to the Board of Governors. The annual expense, per bed, is about £26. By the 8th rule, the attendant Physicians, Surgeons, and officiating Clergymen, are Governors; and any person paying a legacy, or a sum for an unknown benefactor, is entitled to the privileges of a contributor of such sum.

The general Infirmary at Hull, for the reception of the sick and lame poor, is a noble monument of the benevolence of the inhabitants of that town. The want of such an institution had long been felt in this flourishing sea port; when in the year 1781, the public attention was first drawn to this desideratum, and an appeal as promptly made, as promptly answered by an enlightened and benevolent public. A sufficient fund was soon raised to furnish a house for a temporary Infirmary, till a suitable one could be erected. This temporary establishment was opened on the 26th September, 1782, for the reception of the most necessitous objects. In the mean time, a field, of two acres, at a short distance from the town, was purchased for £552. 17s. 6d. including the expense of writings; and a commodious and not inelegant edifice, constructed upon it, with every arrangement that can be wished, for the cleanliness and ventilation of the wards, and the comfort and convenience of the patients. The range of wards opens into a long, wide, and airy gallery, and their size and number give greater facility to the classification of the patients, than is the case in many of the older structures. The cost of erection, along with the land, amounted to £4,126. The average expenditure of this Infirmary, is about £1,400. per annum, and the number of in-patients admitted annually, about 300, and of out-patients, 800. From the first opening of the house, in 1782, to the first of January, 1822, no fewer than 22,656 patients have been admitted; of whom, 17,279 have been cured, and 2,696 relieved; and the number of persons vaccinated here, to the beginning of 1822, was 11,240.

I should also mention that useful Institution, the Hull Dispensary, which was established in 1814. At the period I visited it, the number of patients on the books amounted to about 200; and it now ministers relief to more than 2,000 patients annually.

A Dispensary was established by subscription at Durham, in 1785, and the contributions proving so liberal, the Trustees determined to extend the charity, by converting it into an Infirmary. I regret I have not succeeded in obtaining any documents by which the expenses of its erection, &c. may be ascertained. It appears that the Infirmary has been built at different times, but the Dispensary was never held in the present building; which consists of 12 beds in the men's ward, 9 in the women's ward, 5 in an extra ward, one consumptive ward; Matron one bed and one sitting-room; House-surgeon the same. A committee-room and servants' apartments. The annual admissions of in-patients, average about 100; and of out-patients, 600, exclusive of Dispensary patients.

The Northampton Infirmary was begun in 1791, and opened in 1793. It stands on the eastern side, on the brow of a hill, sloping to the south. The building, when fully completed, cost above £10,000. and consists of three stories above ground, and one beneath, and contains about 90 beds; one side is appropriated to the male, and the other to the female patients. The establishment is supported by the interest arising from numerous legacies, and the annual subscriptions of the nobility and gentry of that county. Between the year 1744, the period of the opening of the old Infirmary, and 1809,—44,147 persons were cured, and 5,780 relieved. The average total of in and out patients yearly, is, at present, about 3,000; and the magnitude of the annual subscriptions, is such as to reflect great honour on the munificence of that county. The legacies amount to nearly £20,000.

Previous to the year 1793, the old County Infirmary was in the midst of the town, and afforded only relief to persons belonging to the county; but the new building is a General Infirmary, and administers aid to all properly recommended cases.

The next in this munificent array of charities, to which I shall draw your attention, is the Sheffield General Infirmary, which may vie with almost any institution of a similar kind in the kingdom, in the salubrity of its situation, the elegance of its structure, and its interior arrangement. The population of this town, so celebrated for its manufacture of cutlery goods, is almost entirely the growth of the last century, for its inhabitants at the commencement of the 17th century, amounted only to 2,207 souls; of which, 725 were obliged to live upon charity; 100 were householders which relieved others; 160 were householders that could barely support themselves; and 1222 were the children and servants of these two description of householders. At the period of the last census in 1821, the population of the township alone amounted to 42,157, and that of the parish, to 65,275.

Successful industry and increasing opulence, have given rise to many useful institutions; but to none which excels in utility or importance, this noble establishment. The want of such an Institution, had for some time been felt by the growing population of this place, when the emphatic appeal of the late Dr. Brown, completed the conviction entertained of its necessity. On Monday, the 23rd of April, 1792, the friends of this measure, on an anonymous invitation, met to discuss its propriety. The munificent example of Mrs. Fell, who subscribed £1000. at once decided the question, and the generous flame soon spread. In a short time, the contributions amounted to £15,000. to which was subsequently added the sum of £2,500. The Trustees, aware of the necessity of protecting such an edifice from the possibility of all future annoyance, with a creditable foresight, provided against this contingency, by the purchase of 31 acres of land. This, indeed, was the more necessary, from the columns of smoke arising from the steam engines and forges used in the manufactories of the place. On Wednesday, the 4th of September, 1793, the first stone was laid; and on the 4th of October in the following year, the house was opened for the reception of patients. It is a handsome stone edifice, and is a prominent object from two of the principal approaches to the town. It appears that nearly the whole of the above £17,500. was expended in the erection of the building, and the purchase of the land.*

The Sheffield Infirmary, however, notwithstanding the splendid auspices under which it was founded, has had to surmount many obstacles to its regular advancement, and for many years, to struggle against inadequate resources, in proportion to the necessities of the neighbourhood, and the internal accommodations of the building. It is gratifying, however, to find, that its claims are now more than ever well approved, and from anniversary to anniversary, the reports continue to hold out the most cheering prospects, of additional funds along with the increasing objects of its bounty. In the House-Surgeon's report of the number who have been vaccinated annually, since the establishment of the Sheffield Jennerian Society, in the year 1802, it is stated that from July, 1827, to July, 1828,—1,438 had been vaccinated, and the total number of persons vaccinated since the commencement of the practice, is 28,642, not one of whom have died in

* In the list of Benefactors, two deserve particular notice; the first is by a gentleman, who desires his name may not be known, by Messrs. Coutts & Co. Bankers, London, £6337.; the same bountiful hand presenting at the same time, two sums of the like amount, (being the proceeds of £30,000. three per cents.) to the Infirmaries of Nottingham and Derby; the second benefaction deserving of notice, was from the late Rev. John Lambert, of Chapeltown, who, by will, appointed the three Infirmaries of Leeds, Hull, and Sheffield, residuary Legatees in equal shares of his personal estates, by which bequest, each of those Institutions became entitled to, and in 1819, received the sum of £3,500.

consequence of the disease. Three hundred and eighty accidents during the year, had been admitted without any recommendation, and the total number of in and out patients, admitted since the opening of the Infirmary, in October, 1797,—48,207. The following is extracted from the last year's report.

Patients admitted & discharged, from Midsummer, 1827, *to Midsummer*, 1828.

In-Patients.		Out-Patients.	
Remaining in the House, at Midsummer, 1827,	61	Remaining on the Books, at Midsummer, 1827,	489
Admitted since,	903	Admitted since,	2416
	964		2905
Discharged.		Discharged.	
Cured,	397	Cured,	1272
Relieved,	104	Relieved,	738
For irregularity,	10	At their own desire,	26
At their own desire,	22	For non-attendance,	289
Not relieved,	16	Not relieved,	108
Incurable,	1	Incurable,	1
Relieved and made out-patients,	314	Made in-patients,	29
Dead,	31	Dead,	38
Remaining in the House, at Midsummer, 1828,	69	Remaining on the Books, at Midsummer, 1828,	404
	964		2905

The Cornwall Infirmary, at Truro, was commenced in 1792, and finished in 1799, containing less than half an acre. There are three wards on the first floor. Two wards, and an operating room, with a servant's bed room, in the upper story. The number of in-patients is limited to 25, exclusive of accidents. The cost of erection was less than £2000. but this was antecedent to the war. The contract was taken in 1792. The cost of furnishing was about £600. in the first instance; five beds have been added since. The average number of beds occupied, is about 22 or 23. Patients are sent from very distant parts, from Plymouth to the Land's End, and operations frequent.

I had designed to have completed in your present number, this general review of the Medical Charities of our country, but a deficiency of *recent reports*, has put it out of my power. I have, therefore, without implicitly following the order of seniority, submitted to your readers such details as my documents enabled me, reserving a description of the remaining Institutions, as well as some general remarks, to a future occasion. To the humane reader, I make no apology for these lengthened extracts of reports, which present a spectacle of thousands cured and relieved in various parts of the empire. He will recognise in these periodical records, the rich fruits of Christian beneficence, as well as a sure pledge to the public of the proper application of their bounty. If there are others to whom such details may appear "stale, flat, and unprofitable," I can only say, that if they are ever called upon to co-operate in the formation of similar Institu-

tions, they will find such documents necessary. To me they have proved of incalculable value, and amply repaid the labour of collecting them.*

[TO BE CONTINUED.]

ARTICLE II.

Observations upon some forms of Spinal and Cerebral Irritation.

BY JOHN DARWALL, M. D.

Physician to the Birmingham Dispensary.

Modern research has examined with much care and ability, the functions of the nervous system; and avoiding the rock upon which earlier enquirers were wrecked, has unquestionably added much that is valuable to the stock of human knowledge. The nature of that unknown power or principle by which the body is first enabled to perform living functions, has escaped, indeed, as probably it ever will escape, the eye of human intellect; but the laws by which the different systems act, and the sympathies by which they are combined, are, in many respects, ascertained. Considerable, however, as the acquisitions are, and certain, so far as at present we know, the deductions, scarcely any use seems to have been made of them in the practice of medicine, and the investigation of disease. If, however, the nervous system is more or less connected with every function of the animal body; if the circulation of the blood, the phenomena of respiration, and the operations of the intellect, cannot be carried on without its intervention, the manner in which it is disregarded, cannot but be a most important defect. It has, perhaps, in great measure, arisen from always contemplating the brain as acted upon by the circulation, and never reversing the order of review. But, throughout, it should never be forgotten that the animal functions operate in a circle, that the obstruction may begin in any part, may thence be communicated to the rest, and these may injuriously re-act upon the original portion.

It has been stated that some things are actually ascertained in the functions of the nervous systems.

And first, no one can now doubt, that the brain is essential to the exertions of intellect; that it is the organ by which our thoughts, our feelings, and our passions, are in some way or other produced. Of the peculiar offices of its separate parts, very little can properly be said to have been ascertained. Enthusiastic and highly gifted as Gall was, and as Spurzheim is,

* Deeply indebted as I am, to the Medical Officers of various Hospitals, for their kind communications, I should be guilty of great injustice, if I were not to avow the paramount obligation I am under to Dr. Forbes, of Chichester, who some years ago, furnished me with some most useful documents on the subject of Hospitals.

their enthusiasm has unquestionably predominated over their cooler reason. They have seen connections between their Anatomy and Physiology, which others cannot see, and believe themselves to have proved the existence of distinct portions, which, to say the least, have not been established by others. But whatever opinion we may be induced to form respecting their mapping the skull, and their metaphysical principles, it must be acknowledged, that they have induced men to think more accurately upon the functions of the brain; they have shewn that matter only can be the object of investigation of material beings, and that a proper sense of this, must necessarily induce a humility favourable to the reception of every truth. It is an additional step in the progress of human knowledge, to leave the idle speculations of the schools, and to seek information on every part of science, only from those sources whence it can be drawn. In disease, the information thus afforded, is extraordinarily important, for working on bodily organs, every means must be looked to by which those organs may be affected, and we learn that upon the brain, moral causes continually operate with the greatest advantage, or in a manner the most injurious.

Mr. Bell, however, has been more successful than Gall and Spurzheim, in analysing the functions of different parts of the nervous system, and has clearly shewn, that there are two portions, one of which bestows sensation, and the other, the power of motion. The only part in which they can be separated by dissection, is the spinal column, though every day affords instances of disease in which one or the other is alone affected. But, perhaps, in a medical view, the most valuable results have been obtained by Dr. Wilson Philip. By him it has been proved that secretion is affected through the medium of the nervous system, and that the heart is also very greatly influenced by the same system. Hence we may conclude, that when indigestion, and its accompanying evils of nervous irritability, severely affect any individual, the brain and spinal chord, one or both, are suffering as well as the stomach; and if this be allowed, the propriety of directing remedies more immediately to these organs, than has hitherto been customary, will not be doubted.

But I wish to go farther than this point, and to regard the nervous system not as merely influenced by affections of the kind above alluded to, but as actually being the source from which they proceed. It is now much more generally acknowledged than formerly, that functional must precede organic diseases, and consequently, if the nervous system preside over and govern function, this same system must, in very many instances, be first affected. It becomes, then, necessary to ascertain these instances, for it is clear that our chance of curing disease, must be in proportion to the accuracy of our diagnosis in the earliest periods.

The affections which appear to me referable to irritation of the spinal chord, are, perhaps, in their origin, confined to this portion

of the nervous system only ; but so intimately are the sympathies united, that but a very short time elapses before the brain is also comprehended in the disorder. Of the nature of the irritation, or what is the state of the blood-vessels of the part affected, dissection cannot afford us any information, inasmuch as patients rarely die from maladies of this kind, till the functional has passed into organic disease. But I am inclined to believe, that in most cases, there is some irregularity in the local circulation—that there is frequently congestion, and it may be conceived, that it will sometimes proceed into acute or chronic inflammation.

One other circumstance may be referred to before entering upon the consideration of the affections in question ; it is simply this, that disorders attacking the origin of nerves, or their attachment to the central mass, whether this be the brain or the spinal chord, always disturb the functions of the organs to which such nerves are destined. It may be imagined that the ramification of nerves may be affected in their passage, and thus, also, give rise to similar phenomena ; no reason can be alleged that such a circumstance may not happen, but we know actually that the former does occur, and we may not neglect it in the treatment of diseases, and if by any means we could recognise the latter affections, they also would demand an equal attention. It is of the former, however, which I now propose to treat, and the first class are those in which the functions of the heart suffer.

That mental anxiety has frequently given rise to organic disease in this viscus, is well ascertained, and the progress of such cases is generally the following. Depression of spirits, with dyspepsia, and occasional palpitation of the heart ; considerable debility ; great excitability ; and every time that this is acted upon, it is followed by exhaustion, and more or less severe hypochondriacism. Emaciation occurs, and generally in proportion to the affection of the heart. After some time, the palpitation becomes more and continual ; the action of the heart is perceptible over a larger space, sometimes on both sides of the chest ; the pulse at the wrist is various, according to the nature of the cardiac affection ; if the ventricles become thin and weak, the pulse is rapid, small, and feeble, undulating ; if, on the other hand, active aneurism of the organ exist, the pulse is, in the earlier stages, excessively powerful, and sometimes continues so till within a few hours of death. In other cases, it resembles, for weeks before dissolution, the pulse which attends passive aneurism. Unless death occur suddenly, these affections terminate in general or local dropsy, and the patient dies completely worn out and exhausted.

In women, the catamenia become very early deranged ; they are profuse or suppressed, and in either case attended with severe and profuse leucorrhœa. The following cases appear to me illustrative of these observations. In the first, the disease was removed by early attention : in the second, it is most probable that irremediable organic alterations had taken place.

June 10, 1828.—John Carter, æt. 19, jeweller.—This man applied for assistance, a fortnight ago, having previously been under a very respectable Surgeon's care, who had treated him as a dyspeptic patient. He had suffered much anxiety from domestic circumstances, having married four months ago, and in order to support himself, he had worked from thirteen to fifteen hours a day, taking, at the same time, very little exercise. His appetite failed; he suffered from great flatulence and palpitation of the heart. The last symptom gradually became more and more severe, till at length, he could not move without exciting it. His spirits were excessively depressed; his nights quiet. By attention to his digestive organs, his appetite improved, but without diminishing the palpitation of the heart in the slightest degree. A blister was applied to the upper part of the dorsal vertebræ, as high as the nape of the neck, the first day I saw him, which had the effect of greatly diminishing the palpitation. A week ago, another blister was applied; the palpitation has ceased. His appearance is improved, and he declares himself well. The only essential difference from the treatment which had been previously adopted, was the application of the blister. I have heard of him repeatedly since, and he had no return of his complaint.

The grounds upon which this treatment was instituted, were these. The disease had evidently originated from mental disturbance, acting through the nervous system, and appeared to have affected more particularly that part of it which presides over the functions of the heart. This organ is supplied with nerves partly from the par vagum, which takes its rise from the medulla spinalis, and partly from the cardiac plexus, of the sympathetic, which receives twigs from the spinal nerves. My object, therefore, was to apply counter-irritation, as near the common centre of cardiac nerves, as lay in my power. Whatever may be thought of the reasoning, the success of the treatment was undoubted: nor, I think, can it be doubted, that it was one of those affections which so frequently terminate in organic disease of the heart.

The next case is still under my care, and is, I fear, irremediable, at least, further than what relief may be afforded by correcting the digestive organs.

December 31, 1828. A—— B——, æt. 19, has severe and constant palpitation of the heart, with a small, quick, fluttering, and irregular pulse. The contraction of the ventricles is manifest over the whole chest; but I could discover no regular intervals, with the assistance of the Stethoscope. The palpitation is increased after taking food, and the slightest exertion makes it much more manifest. Flatulence, costiveness; urine scanty, turbid. Catamenia regular as to the period, but dark coloured; not much, if at all, diminished since her illness. Leucorrhœa occasionally profuse. Dyspnœa, but no cough.

Heaviness, with giddiness of the head and noise of the ears. *Pain in the nape of the neck, increased and particularly distressing, on the slightest agitation.* She describes it more as stiffness and irritation, than violent pain. Very low spirited.

No swelling of the feet or ancles, nor of the face, though the latter is sometimes stiff in the morning. Has been ill for seven years. Her complaint began soon after distressing circumstances had much disturbed her, with leucorrhœa and bearing down pains. These were, for some time, the principal symptoms; but afterwards, palpitation of the heart came on, at first, in a slight degree, and she describes it as having beaten at this time heavily and slowly. In going a few miles from home, she was shaken by the starting of the horse and gig in which she was, and from this period, has remained quite incapable of doing any thing. Even writing or reading will excite the action of the heart.

February 4.—I have seen her this morning. Her dyspeptic symptoms are certainly better, and there is even an improvement in the state of the pulse. Yet she is still unable to do any thing in the shape of employment, and the palpitation is exceedingly troublesome. Some doubt may, perhaps, still attach to this case, as to how far organic disease has proceeded. It may, however, be regarded as illustrating these affections, and showing what would probably have been the progress of the former case, had it not been arrested by the treatment.

The third instance which I shall relate, proves to my mind still more strongly the connection between affections of the heart and the spinal column, and the importance of considering this organ in practice.

November, 1828, I visited Mrs. Wilson, and found her labouring under the most violent palpitation of the heart I had ever seen. The bed clothes were heaved up with each contraction of the ventricle, and the pulse in the carotids was tremendous. On applying the stethoscope to the region of the heart, a very loud hissing noise was distinctly heard, at intervals, corresponding with the pulse at the wrist. The palpitation came on more violently at one time than at another, but had continued at the time of my visit, almost without intermission, for nearly a fortnight. She was very low spirited, and hysterical, but without fever. Her bowels had been purged, and leeches had been applied to the region of the heart, but without benefit. She was again purged, and a blister applied to the spine, which rose in about eight hours, and the palpitation had diminished as soon as the irritation from the blister was perceptible. I saw her the next day, and the palpitation was almost gone. The hissing sound had quite disappeared. It returned slightly a day or two after, but has never again been so violent. Gentle aperients, with the mineral tonics, were given, and in a few days she was able to go to work. She has had many of these attacks within the last few years.

December 6, 1828.—I have seen her this morning, and she is entirely free from inordinate action of the heart. Her pulse was eighty-four and quiet. She refers her relief to the blister.

The first and the last case appear to me demonstrative of a connection between the palpitation of the heart, and some affection of the spinal chord, indicating, therefore, the propriety of regarding it under such circumstances, in practice. Of the origin of the second case, we have only an imperfect account; there is one symptom, however, which scarcely permits a doubt of the medulla spinalis being implicated in this instance also, viz. "the pain in the nape of the neck increased, and particularly distressing on the slightest agitation." This we shall find a frequent symptom in some of the affections which I am about to describe. Before, however, entirely leaving this point, I would mention, that in many irritable children, who were suffering from inordinate action of the heart, a blister to the spine has given great relief.

Another form in which spinal and cerebral irritation are exhibited, occurs most frequently in young women. It is attended *by severe and constant pain in one or both hypochondria*, extending to the shoulder and arm of the affected side, *not always aggravated by pressure, and ceasing immediately upon or in a a short time after lying down.* It is this pain of which the patients generally complain, and it frequently endures for several years. It is generally attended with much constitutional disturbance. *There is head-ache, with great heat on the external surface of the head, severe throbbing of the temples, and pain in the nape of the neck. The temper is capricious, and the spirits very variable*: and at the catamenial periods, the depression, in many cases, is excessive. The tongue, after some time, is furred, and at the back part, greatly tuberculated. The stomach suffers under the various forms of dyspepsia, gastrodynia, flatulence, pyrosis, &c.; the bowels are, in many instances, much distended, and there is continual clangor intestinorum. Palpitation of the heart, more or less, is present, and often dyspnœa attends. The most common disturbance, however, is in the uterine function, and I have scarcely seen an instance in which this has not occurred. Most commonly there is menorrhagia; in some few cases the catamenia are diminished, or they are completely suppressed. But whether they are increased or diminished, leucorrhœa almost invariably attends, and is generally more or less profuse, in proportion to the duration of the general disorder. When the catamenia are profuse, they are usually, in the earlier part of the period, dark coloured and grumous, and are accompanied with severe pain. The urine, for the most part, deposits a light coloured sediment, and varies much in quantity, being occasionally very copious and limpid. The bowels are constipated, and yet no great relief is obtained by purging.

If this state be suffered to proceed without remedy, emaciation ensues, and great debility, till at length the individual is inca-

pable of following any occupation. Her countenance becomes leucophlegmatic; her ancles swell at night, and without being so ill as to be considered in danger, she settles down into that morbid condition to which the term cachexia has been applied, when every organ suffers in some degree, but none predominates. When this happens, it is generally too late to afford any relief. I have had a young woman under my care for some time, under the last mentioned circumstances. She has continual pains referred to one part or another, but most frequently fixed to a spot under the left breast; she is leucophlegmatic; her ancles are at times œdematous; her breathing short and hurried; her spirits very varying, and she is subject to much head-ache and giddiness. At different times she has received relief from local depletion, and upon the whole, she is better than when I first saw her; but there seems no prospect of affording her any permanent benefit.

It cannot be supposed, however, that all cases are attended by the symptoms above enumerated; in many, the local pains are alone complained of, and the other affections follow at indeterminate periods. A married woman, about thirty years of age, had suffered for more than twelve months, from severe pain in the side, in the course of the descending colon. It was attended with much hysteria, and a generally nervous state. Under her former medical advisers, she had been repeatedly purged and leeched, and several blisters had been applied over the affected part, without any relief. The pain had always been relieved by lying down, although she could not lie on the affected side. A blister was applied to the lower dorsal, and upper lumbar vertebræ; the next day the pain had nearly disappeared; a second blister in the same situation, completely removed it. Her general health was quickly restored, after this time, by tonics, gentle aperients, and attention to the diet and regimen. Before the application of the blister, every step she took had increased her pain.

A second class of cases, are those in which the brain appears to suffer considerably, and where, though the catamenia are diminished, or almost suspended, the countenance is pale and leucophlegmatic; the pulse weak; the breath hurried; and the pain in the side varying. Cases of this kind frequently require more active treatment, and in the first instance even admit of general depletion, though this cannot be carried far; indeed, the immediate effect of bleeding in such circumstances, is often an increase of the weakness, and but a very slight relief of the other symptoms. Remedies, nevertheless, appear afterwards to be more efficient, and it has seemed to me, that patients who have suffered depletion, recovered much more quickly than those who were not bled.

A young woman, two and twenty years of age, had suffered from considerable depression of spirits for several months, when to this, *pain in the side, stiffness in the back of the neck, palpi-*

tation of the heart, and dyspnœa, succeeded. There was some leucorrhœa; the catamenia were irregular in their occurrence, and less in quantity; the pulse was feeble; the countenance sallow and anxious. About a fortnight before she applied to me, the left ancle had become painful and œdematous, particularly towards the evening. She had also intense head-ache. She was bled and purged, and for some days remained very feeble; the head was less painful, but was still hot on the surface, and she suffered much from tinnitus aurium; the pain in the side remained the same. Cold applications were made to the head, and a blister placed along the spine, from the nape of the neck to the middle of the back. The next day, all her symptoms were relieved; she continued the cold application for a few days, whenever the scalp was warmer than usual, till the tinnitus aurium completely disappeared. After this time, aperients, with the nitro-muriatic acid, were given, and her health improved rapidly. Her appearance now, not more than two months from her being bled, is that of florid health.

The difficulty of breathing is sometimes so great, as to induce great fear of organic mischief having taken place in the lungs, especially when, as indeed is generally the case, it is attended by frequent cough. The stethoscope, in these cases, is a great assistant in the diagnosis; the respiratory murmur is heard in every part of the chest, and is even puerile; indeed, this heightening of the respiratory murmur, is very characteristic of the disorder in question.

Another variety of this complaint is, where pain in the nape of the neck is complained of, with a sense of pricking and chilliness along the spine. This is most severe at the catamenial period, which, in these cases, is very irregular, and attended with much pain and depression of spirits. Numbness of one or both upper extremities, is sometimes felt, and I have even known complete, though temporary, paralysis occur, which disappeared spontaneously in a few hours.

To enumerate all the varieties of these affections, would be endless; in all of them there is depression of spirits; in almost all, there is pain and stiffness at the back of the neck, and the nervous sensations are peculiarly distressing. In some, in addition to the symptoms above mentioned, there are slight spasmodic twitches occurring in different parts of the body, and pointing out more decidedly the nervous origin of this disorder.

The following is the last case I shall mention of this class:—the patient has been long under my care, and I had the opportunity of watching her case, before any symptoms particularly indicating disorder of the nervous system were manifested. Her case had been treated by other medical men, as well as by myself, as simple dyspepsia. The patient was a cook, thirty years of age, and for several months, the derangement of the stomach was the only evident disorder. She afterwards became very hysterical; once or twice she had a paralytic loss of power in

one arm, and frequently complained of a numbed state of the tongue, and sense of fulless in the throat, which disappeared again without medical assistance. Leeches were applied, but her complaints were aggravated. Her pulse was weak, from 80 to 90; the catamenia scanty; leucorrhœa profuse; her whole appearance leucophlegmatic. To this state frequent attacks of giddiness succeeded, with great depression of spirits, and at length, an attack resembling epilepsy. The common run of alteratives, aperients, &c. were tried in vain. She was taken into the hospital, but came out without any improvement. At this period a seton was placed in her neck, and for some time her health materially improved; her stomach recovered its power, and all her uncomfortable sensations diminished. They have since re-appeared, and her state has been exceedingly variable: there seems now no prospect of a recovery. Since the cerebral symptoms have been more developed, general bleeding has given her temporary relief, but only temporary.

It will be readily seen, that the cases above referred to, are not of that kind which have been hitherto regarded as dependent upon spinal and cerebral irritation; that they are, in fact, of the nature of those diseases which Dr. M. Hall comprehends under disorder of the general health. If, however, they are accurately investigated, it can, I think, be scarcely doubted, that the nervous system suffers in all these examples, primarily and seriously. The intellect is unclouded, but incapable of energetic action; the temper is exceedingly capricious, and the spirits are lowered or elevated far beyond what the circumstances which produce such effects, could lead us to expect; at times, indeed, the mental affections amount almost to insanity; kindness is overlooked, or perversely misinterpreted; suspicions are entertained, the most unfounded and the most irrational; the bitterest expressions are employed, without any settled belief, that those deserve them against whom they are directed; and, in short, every thing indicates that state which has most appropriately been called highly nervous. Is it possible that all these things can occur, without affection of the cerebral and spinal system?

Again, there are local pains, neither exhibiting the symptoms, nor yielding to the remedies of inflammation, but ceasing upon assuming the reclined posture. Knowing, as we do, that the same circumstances occur when pain is experienced in the back from affection of the spine, is it not fair, in defect of other explanations, to refer them also to disturbance of the nervous system? Again, these pains are distant from the spinal chord, but if Sir H. Halford's hypothesis be correct, of one source at least of Neuralgia, viz. irritation of the nerve within the skull, this will serve rather to corroborate the opinion.

Dyspnœa attends without any cognizable disease of the lungs in those deformities in which the superior part of the spine suffers; this frequently occurs—dyspnœa of the same kind often alternates with melancholy. I have a young lady under my care at

the present time, in whom melancholy and spasmodic difficulty of breathing perpetually alternate; and instances of the same kind are related by very many medical authors. There is palpitation of the heart; that this may be a simple nervous affection, will require no proof; it is universally acknowledged. In many instances, there is a most oppressive feeling at the pit of the stomach, accompanying depression of spirits, and attended by the pain in the nape of the neck, which has been above referred to; many individuals connect their uncomfortable sensations with this pain. And lastly, when these cases endure long, they are very apt to terminate in those disorders which are more generally believed to originate from affections of the cerebral and spinal system, in chorea, in epilepsy, in sensations of numbness, and even sometimes in paralysis; the last, however, is rare; the former, the practice of every physician will probably illustrate.

In laying so much stress upon the nervous system in these disorders, I am very far from intending to inculcate that *this alone* is affected, for doubtless digestion, circulation, and secretion, all more or less, are interested; but it has appeared to me, that in practice, this system has been too much neglected, and that more direct attention would lead to more successful results. With respect to the treatment of this disorder, the general rules, so far as the materia medica is concerned, may be collected from what has been above stated; but there is one point which I have intentionally omitted, that I might direct the attention of practitioners more particularly to it; and this is, the moral management of their patients, the most important and the most necessary part of all.

It has been so much the custom to refer insane persons to one class of practitioners, and the moment that any aberration of intellect is observed, to withdraw the patient from the care of the general attendant; that neglect of this part of medicine may easily be accounted for, if not excused; yet we may question if some of the severest cases of insanity might not be prevented, if medical men were more aware of its earliest symptoms, and recognized it more than they do as a bodily disease, a disease of the nervous system.

Now as light is the appropriate stimulus of the eye, sound of the ear, odours of the nose, so moral causes appear to be the appropriate stimuli of that part of the nervous system, which is the source of the affections, the passions, and the intellect; and to guide and govern them must be an important part of the treatment of those cases in which the nervous system is affected. They are not to be regarded as the effects of fancy, nor the caprices of temper, but as diseases which are more or less under our controul.

Every practitioner must have met with those who, though subject when alone to paroxysms of distress and capriciousness, which they seem unable to conquer, or even to resist, are yet easily induced to restrain themselves while in society. Persons

of this kind have usually fallen under one of two classes of practitioners; either under those who make their ailments dishonestly gainful, constantly attending, promising every thing, and attempting nothing; or those who, too proud and too honest to act in this manner, yet ignorant of the real facts of the case, treat the whole with total neglect, as an imaginary disease which it is useless to contend with, and impossible to overcome. Here, then, moral management ought to step in. The same rule should be laid down and steadily adhered to, as where the object is simply to strengthen the body. Too much exercise exhausts and destroys it; too little enfeebles it, from repletion and disease. Society to the individuals in question is neither more nor less than a stimulus, which, within certain limits, is useful; carried beyond them is injurious, and may be even destructive. The object, then, of the medical man in such cases, is to obtain this moderation, and with the same individuals he may at different times, have two different and opposite evils to contend with. At first the disinclination may be very great, because the patient fears the exertion that it requires, but when accustomed to its beneficial effects, the contrary disposition takes place. She seeks relief in the stimulus which society affords, and in the interval becomes more and more exhausted, more irritable, and more uncontrollable. The same difficulty also occurs in yielding or in resisting the various inclinations in other things of these patients; to do the former in every case but increases the evil; the latter incautiously pursued, engenders distrust, and an ill feeling, which attributes that to malevolence, which flows indeed but from kindness.

To pursue this subject farther, would lead to a discussion inconsistent with the limits of a periodical paper; what is meant, however, by moral management, is well understood, and the more it is taken into consideration in medical practice, the more able will Physicians be to contend with many maladies which now defy their art. The influence of mental emotion in removing tooth-ache and other pains, is a matter of daily experience; and the power which some persons have above others, of employing this influence, is the real secret of animal magnetism, and the various other arcana which charlatanism has at different times invented and profited by. Together with attention to the moral management, exercise requires to be strongly insisted upon, so much the more as patients are exceedingly unwilling to take it, and frequently, indeed, deny that they are capable of doing so. That it may be advisable to proceed gradually is indeed true, but in many of these cases, the same success will attend as in that related by Sydenham, in which the patient "productis gradatim itinerem spatiis tandem non convaluerit modò, sed satis validum etiam vegetumque corporis habitum fuerit indeptus."

I may here conclude my observations upon these affections of the nervous system, which it will doubtless be perceived, comprehend those chiefly which are commonly termed hysterical.

There are, however, many other affections, as it appears to me, of this system, which are scarcely yet recognized, particularly some cases of aphonia, and some cases of uterine pains, which resist all the ordinary modes of treatment, though they yield to the insertion of a seton in the upper portion of the spine. I would, however, again remark, that in this system we may probably find the origin of many of the most severe and fatal organic maladies; and whether my ideas be true or false, it will be at least useful with this view, to remark the nervous functions more attentively. This, if the conclusions I have drawn are just, must quickly confirm them; if they are unjust, they will thus be most easily refuted, and cast into deserved neglect.

ARTICLE III.

A Case of severe DYSPNŒA, *succeeded by* EPILEPSY, *and cured by counter-irritation of the Occiput and back of the Neck.**

COMMUNICATED BY W. ROMNEY, ESQ. SURGEON, WORCESTER.

Thomas Watmore, aged 25, a prisoner in the county gaol, under sentence of transportation for life, was brought from the tread-wheel to the hospital of the prison, on the 23rd of March, 1828, with very hurried and feeble respiration, amounting to panting; a small and quick pulse, and great depression of spirits; countenance pale; tongue clean; bowels rather confined. There was neither pain, cough, nor mucous rattle, on inspiration. The inspirations were from 100 to 120 in a minute, and attended with a quick tumultuous action of the abdominal muscles. He bore pressure without pain, on every part of the abdomen, which was free from fulness, hardness, or tension. He was immediately ordered to bed, and a dose of calomel, a saline purgative, and some warm gruel, were given. He passed a sleepless night; the bowels acted freely; but in the morning, there was no amendment of his respiration. I took some blood from his arm, but faintness ensued, when only a few ounces had been lost. He seemed rather better in the evening, but passed a restless night, from the distress and hurry of his breathing.

March 27th.—On repeating the bleeding this morning, although he had no dread of the operation, he suddenly became extremely faint, and respiration being suspended, apparently from spasm of the diaphragm, he had nearly expired. Camphor and opium were now had recourse to in considerable doses, but with no good effect. A dozen leeches were applied to the epigastrium, which bled freely, and he got a warm bath of the temperature of 90 degrees. He then appeared relieved for a few hours, but the

* The Editors having received the following Case a few days after they were favoured by Dr. Darwall's paper on Spinal Irritation, consider it so illustrative of the views of Dr. Darwall on the subject, that they have much pleasure in subjoining it.

hurried breathing returning, the leeches were repeated, followed by the warm bath, and a large blister to the epigastric region; and his bowels, which were confined, were relieved by castor oil. In spite of these and similar remedies, the hurried breathing, sleepless nights, and mental despondency, continued with very few and short intermissions till the 26th of April, on which day his respiration suddenly became more hurried than ever, and this distressing affection continued unabated for several days and nights, depriving him almost of the power of speaking, and totally of rest. This state was succeeded by the most violent Epileptic fits I ever witnessed, requiring, with only short intervals, four men to hold him for several days and nights. These fits left him very exhausted and weak, and the respiration remained unimproved. He was in this state when I requested Dr. Malden to visit him, who gave it as his opinion that the peculiar Dyspnœa had, in all probability, depended upon irritation of the cervical portion of the spinal chord, and that the supervention of the epilepsy might be accounted for upon the supposition of this irritation extending to the base of the encephalon. With these views, he recommended the whole back part of his head to be shaved, and covered with a large blister, discharge to be encouraged from it, and before the blister healed, a seton to be put in the back of his neck. These directions were strictly followed. From this time he had no return of epilepsy; the Dyspnœa also gradually went, and he had no relapse, although he remained in the prison some months afterwards.

As I did not take notes of this case from day to day, I have not been able to supply all the dates, but my memory in the narration of it has been assisted by reference to my weekly journal.

This poor man laboured under the greatest depression of spirits, arising from his sentence of transportation for life, of which he always spoke in the most desponding manner to the other prisoners. This I suspect to be the remote cause of his attack, and not the exertion on the tread-wheel, from which I have never witnessed any bad effects. I find he had always enjoyed good health previous to his imprisonment, and had never had fits or any similar attack before.

ARTICLE IV.

Notes on the Use of IODINE.

BY JOHN BARON, M. D., F. R. S.

Physician to the General Infirmary, and Consulting Physician to the Lunatic Asylum, Gloucester.

A girl, about 15 years of age, came under my care in the Infirmary, on the 5th of April, 1828. She was emaciated to the greatest degree; the abdomen was very much distended, and afforded a distinct sense of fluctuation. From the account which

I received, I understood that the effusion into the abdominal cavity had been the consequence of an unsubdued attack of inflammation of the peritoneum.

I ordered the abdomen to be rubbed night and morning with an ointment containing hydriodate of potass. She was, at the same time, desired to take pills composed of blue-pill, gamboge, and extract of juniper; and a mixture containing infusion of digitalis, nitrate of potass, &c. The combined influence of these remedies was watched carefully for some time, but the pressure of the fluid within the abdomen was so great, as to prevent absorption entirely. The urine became more and more scanty, the swelling increased, and the health of the patient was daily getting worse.

Under such circumstances, it was determined to remove the fluid by tapping. This was done. In a very short time the fluid began to collect again, and it rapidly increased, and, had it not been checked, the abdomen would soon have acquired its original bulk. In this state the iodine ointment was resumed; it was steadily employed for more than two months, and under its use, the whole of the second effusion was absorbed. The only other remedies used during this time, were leeches to the anus, and a mixture containing extract of taraxacum, infusion of rhubarb, and sulphate of magnesia. No inconvenience whatever was suffered from the long-continued use of the iodine. On the contrary, the general health improved. After it was left off, she took sulphate of quinine twice a day, and occasionally, an aperient pill. These latter remedies she used about six weeks. She left the house cured, on the 13th of September.

The next case I shall mention, was more formidable in its aspect. The man was about 35 years of age; he had been a very intemperate liver. He was brought into the Infirmary in a state of the utmost exhaustion and emaciation. His respiration impeded; his abdomen tumid; his extremities livid; his tongue of a florid red colour; his appetite gone; and he frequently discharged blood from the mouth, throat, and (I believe) the stomach. He had been tapped once before he came under my care. My first object was to endeavour to improve his general health; to restrain the discharge of blood, and to act on the kidnies. I soon found, however, that little benefit was to be looked for in these respects, while the abdomen continued as it was. He was therefore tapped, and a very large quantity of serum was withdrawn. After this operation, an enlarged and hardened liver was very perceptible both to the touch and sight. I then recommenced what had been previously adopted without benefit, I mean the use of the iodine ointment, and a mixture with sulphate of potass and extract of taraxacum, together with nitrate of potass and infusion of rhubarb. To these remedies were afterwards added some blue-pill, with squill-pill and extract of conium. The treatment of the complaint was chiefly conducted by these means, with occasional variations, all of which I need not specify. It

is necessary, however, to remark, that the abdomen filled very soon after the second tapping. Under the remedies above-mentioned, absorption began to take place, together with a manifest improvement in the nutritive process. His appetite amended, and he began to acquire flesh. While under my care, he had two attacks of peritoneal inflammation, during which the swelling of the abdomen increased. In both instances it was necessary to have recourse to the lancet. This man, from first to last, was about eight months in the Infirmary. Before he went out, the ascites was completely removed; the enlargement of the liver was much reduced, and, with the exception of this circumstance, and some slight œdema of the lower extremities, there was no trace of his former disease. The patient thought himself quite well, and left the house contrary to my wishes. I was anxious that he should continue in the use of remedies which had been so efficient, in the full expectation that the remaining affection of the liver, and the swelling of the feet, would have been altogether removed.

Both the above cases belong to an intractable class of diseases, and I need scarcely add, that we are often foiled in promoting absorption from the abdominal cavity, after we have been compelled to have recourse to tapping. Nothing could have been more unfavourable than the last case, and the restoration was far more complete than I had anticipated.

I will now mention another case different from both the preceding; it occurred in a boy of 15 years of age. It was a well-marked example of that tuberculous disease of the serous membranes which I have elsewhere described. The abdomen was tumid and hard, affording a distinct sense of fluctuation, in some places. Below the margin of the ribs on the right side, a hard tumour, about the size of a half-crown, was felt. The patient was much emaciated; the skin was rough and scaly. He suffered much distress after eating, and vomited almost every thing that he swallowed. Besides these symptoms, clearly indicative of the abdominal affection, he had others which denoted the extension of the disease to the thorax. His breathing was greatly oppressed, and he had pain about the chest on full inspiration.

He had been ill six months before I saw him. To remove the tension and tumefaction of the belly, and the other symptoms, mercury had been employed, and pushed even to salivation. Under this and the other modes of treatment which had been used, the disease continued to gain ground, and I must confess, when I saw him, that I entertained no hope of witnessing any favourable change.

I endeavoured, first, to allay the disorder of the stomach, and to procure the due action of the alimentary canal, by small and frequent doses of extract of aloes and opium. I then directed my attention to the removal, if possible, of the disorganization which occasioned that train of symptoms which were characteristic of that disease, which had proved fatal in almost every instance that I had previously treated.

I directed the ointment, with the hydriodate of potass, to be assiduously rubbed upon the abdomen night and morning, and did every thing in my power to promote the nutrition of the body, and the absorption of the diseased structure. With this intention he frequently used, in addition to the remedies already mentioned, the liquor potassæ in some bitter infusion.

It would be to little purpose to detail all the changes which took place in this disease. It was necessary several times to apply leeches to the abdomen, and to administer various medicines to allay particular symptoms as they arose; but the chief and efficient remedies were those already mentioned. They were persevered in, with more or less regularity, for eighteen months; and, although the disease often appeared to resist all my efforts, some of the symptoms gradually gave way, and ultimately the success was complete. Every two or three weeks I could trace, by admeasurement, a decrease in the size of the abdomen; and a diminution of the vomiting, and of the distress about the stomach. The countenance became less anxious, and an increase of flesh denoted a restoration of the nutritive functions. When I discerned these things, I felt confident in the result, and I was not disappointed. He became strong, and full in flesh, and every trace of the abdominal affection disappeared.

A child, eighteen months old, the son of a medical gentleman in this city, was brought to me in the course of last year. The abdomen was enlarged and indurated; the chest was exceedingly narrow, being quite disproportionate to the age of the child, and still more to the size of the belly. All the other parts of the body were greatly emaciated; the flesh was soft and flabby, and he could not support himself, even in the sitting posture. Nutrition seemed to be almost stopped, as any solid food passed nearly undigested through the alimentary canal, and diarrhœa was very frequent.

From the contracted state of the thorax, the child was liable to distressing dyspnœa, and suffered occasionally from inflammation of the lungs. Another proof of the complete stop that had been put to the nutritive process, was exhibited by the state of the teeth. The cuspidati had perforated the gums five or six months before I saw him, but they never advanced.

Every remedy usual in these distressing cases had been employed previously. I recommended the abdomen to be rubbed twice a day with the ointment containing the hydriodate of potass; directed much attention to his diet, and ordered some powders containing carbonate of soda, tartrite of iron, and colomba. It ought to be mentioned that remedies of this latter kind had been used before, without benefit. In conjunction with the iodine, the result was very different. In a short time, the abdomen became less hard and less tumid; the diarrhæa ceased; the evacuations became more natural, and the countenance and temper of the child satisfactorily evinced an amendment of health.

In a short time the thorax expanded, the flesh became less flabby, so that the child was able to walk It ought likewise to be mentioned that the teeth, which had been so long stationary, began to grow, and soon acquired their natural size.

I have reasons for believing that tuberculous diseases of the lungs, in their incipient stages, have been removed by treatment corresponding in principle with that just mentioned. In such cases I have used the iodine ointment, combined with opium, and directed it to be rubbed upon the thorax. Of course I employed other means to allay the thoracic irritation, but I do not think that they, of themselves, would have been effectual. We shall ultimately, I doubt not, gain satisfactory information on this point.

Allow me, now, to select two other cases, in which the most gratifying success has arisen from the use of the iodine. One was that of a female nearly forty years old. A tumour about the size of a child's head occupied the lower portion of the abdomen, and pressed on the pelvic viscera. Neither the fœces nor urine could be discharged without the greatest difficulty. It was so great as to require the frequent use of the rectum-bougie, as well as of the catheter. Besides these means of temporary relief, leeches to the anus, anodynes, fomentations, &c. were occasionally had recourse to. The iodine ointment was, in addition, assiduously employed. Towards the conclusion of the treatment, I directed the patient to take a solution of the chloride of lime; prior to its use, a decrease in the size of the tumour was rendered manifest, on examination, as well as by less frequent need for the bougie. This patient was under treatment in the Infirmary for many months. The disorganization, I am happy to say, has been so completely removed, that no trace of it can be felt externally, and all the inconvenience and pain which she suffered from it, have nearly disappeared.

I have lately treated another case, of the same description as the preceding. The disease had, however, made greater progress. The tumours not only pressed upon the pelvic viscera, and impeded their functions; they likewise expanded into the abdomen, and produced all the distress consequent on this sort of disorganization. It was manifestly composed of different textures; some portions being hard, and others soft; and the surface of the abdomen affording that unevenness which denotes the origin and the character of the disease. In this case, the distress arising from the pressure of the tumour upon the bladder, was so great, that it was necessary to employ the catheter every day. Under these unpromising circumstances, the use of the medicine of which I have been speaking, was begun. It was employed both internally and externally for a considerable time. The result has been a great reduction of the tumour, complete freedom of the urinary organs, and such an improvement in the health of the patient, as to permit her to perform the arduous duties of an active situation with ease.

In connexion with some of the cases which I have thus briefly noticed, I take this opportunity of recording in your pages a few observations illustrative of the primary state of several of these disorganizations.

Ever since I have ventured to address my professional brethren on Pathological subjects, I have endeavoured to shew that our information regarding changes of structure, never can be complete or satisfactory, until we have ascertained the incipient condition of these changes, and traced them through their various stages. We have long been looking at the *last* link in this chain, it is now desirable that we should direct our attention to the *first*. Varied and multiplied as have been our examinations of morbid bodies, it is an admitted fact that our knowledge of the origin and progress of alterations of structure, has been by no means in proportion to the number of our dissections.

When death is the consequence of a disorganizing process, parts not originally concerned in the disease become involved in it, and a confused and undistinguishable mass is often presented to the observer. This has been unfavourable for the advancement of sound pathological knowledge. Our minds being accustomed to reason on the more complex appearances, we cannot form any accurate conception of the simple and primary alterations which, when not checked, lead to such results.

There is no disorganization in which the difference between the commencement and the conclusion is more striking, or more palpable, than that of which I am about to speak. Look at a case of physconia; see an immense mass distending the cavity of the abdomen, and ultimately extinguishing life, by the enormous pressure and influence of a growth foreign to the healthy structure. Let us look at this mass exhibited on post mortem examination, and we shall probably find a compound disorganization, varying according to the number and variety of its elementary parts. Seldom or never contemplating the disease but in its last fatal form, we are not accustomed to judge of its appearance in its primary state, or even during its progress. We can scarcely believe that one, or two, or more, transparent vesicles growing from any portion of the abdominal cavity, should lead to mutations so formidable, or so fatal, as those just referred to.

The uterus and its appendages, are the parts most frequently attacked with diseases of this kind, and they are generally, though inaccurately, included under the appellation of ovarian. That I may be the better understood, I shall extract a few sentences from a work which I have recently published. "In general, the following is the progress in this variety of disease. One or more transparent vesicles may be seen attached to the fallopian tubes, or to any portion of the uterus, or the parts contiguous. These, as they increase in size, undergo various changes, and at last, a compound disorganization is formed, exhibiting different properties according to the time at which it may have been examined,

and the actual state of its elementary parts. Two cases which I have lately seen are explanatory of this statement. In one, the disorganization was in its primary state. There were distinct pellucid vesicles containing a transparent fluid, the smallest of which was not much larger than the head of a pin; the largest was about the size of a hazel nut. Some slight change had taken place in the coats of the latter, they having become in some degree dense and opake. In the other case the same variety of disease was in a more advanced state; clusters of vesicles and tumours were found hanging from each fallopian tube, and the progress in the transformation was demonstrable in the most satisfactory manner. One large vesicle of about an inch in diameter was quite pellucid; another, about the same size, upon the opposite side, was half pellucid and half opake, and solid. The progress from the soft, transparent state, towards consolidation being thus clearly discernible. In this stage, the tumours, for the most part, hang downwards; this is not the position in which we generally find them afterwards. The reason of this is obvious. If they increase much in size, their downward growth is necessarily prevented, by the resistance which they meet with from the pelvis. They are, of course, forced to take another direction, and ascend into the abdomen, where they often acquire an enormous magnitude."*

I have recently met with another case illustrative of these positions. A young lady, about 17 years of age, was cut off by an inflammatory affection of the membranes about the base of the brain. She had, likewise, laboured under amenorrhœa. I need not here detail the appearances found on examining the head; I would rather refer to what more immediately regards our present purpose. The abdominal cavity, with all its contents, was perfectly sound, with the following exception: the uterus and its peritoneal covering, were redder than natural. The ovaries and the fallopian tubes, on the contrary, were rather more pale than they are generally found. Attached to the tubes were two pendulous bodies; one on the left side, about the size of a small pea, and connected by a very slender neck, was perfectly opake, and nearly solid. The other, on the right side, attached in like manner, was about the size of a small grape, and was perfectly transparent, of an oval form, and full of a fluid quite pellucid; *one* red vessel traversed the cyst.

I look upon these facts as illustrative of the *principia* of this class of diseases. Had the patients not been cut off by other affections, these incipient disorganizations (whose existence was not even suspected,) could not have been discovered, till their more advanced growth had rendered them perceptible. It is from casual occurrences of this kind *alone*, that we can ever hope to find out what is going on at the commencement of such morbid changes. I have urged the consideration of this point so frequently, that I shall do no more, at present, than simply to repeat

* See Delineations, pp. 35, 36.

this undeniable proposition; namely, that inferences concerning the primary condition of morbid growth, from what we witness in their last and fatal stage, must necessarily be imperfect, if not conjectural, and consequently, inconclusive.

I have selected the foregoing cases from among a great number, to elucidate the connexion between some changes of structure, and the remedy employed for their removal. I have no hesitation in saying that *that* remedy can accomplish what has been looked for in vain from any other known agent. I likewise feel it right to state, that I am not acquainted with any of equal efficacy which is, for the most part, so manageable. There certainly are constitutions that cannot bear its influence, whether used externally or internally; but out of several hundred instances, I have only met with one or two. With moderate attention, the inconvenience which it produces in such constitutions, can be obviated, by caution at the commencement, and desisting immediately on the occurrence of any untoward symptoms. I am the more willing to mention these things here, because I fear that this remedy has fallen into disrepute, by reason of its unguarded employment. Some, too, speak slightingly of it, because, like every other remedy, it occasionally fails; yet, with every reasonable deduction, I cannot help considering it as a truly valuable acquisition.

ARTICLE V.

Observations upon Spontaneous Combustion of the Human Body.

BY THOMAS NEWELL, OF CHELTENHAM, M. D.

And Surgeon Extraordinary to the King.

In the first number of the Midland Medical and Surgical Reporter, notice is taken of the extraordinary fact of Spontaneous Combustion of the human body, which now and then, though very rarely, takes place; and a memoir which had been recently read in the Academie des Sciences at Paris upon this subject, is referred to. An Essay was published about thirty years ago in France, by Pierre Aimé Lair, in which reference is made to cases of this description, from the writings of Bianchini, Maffœi, Rolle, Lecat, and Vicq d'Azyr.

An account is given in the Philosophical Transactions, in a Letter from Mr. Wilmer, of Coventry, to Mr. Wm. Sharp, of an accident of this nature, which happened to a woman in that city.

There is also an account of a woman at Ipswich, of the age of 60, in whom it took place in 1744; and of one or two others which have happened in this country. I shall make some reflections upon these respective accounts, and upon some curious circumstances, which appear to be connected with this very singular phenomenon; but they will come more properly, after I have related an interesting case of it, which happened in this town a few years ago.

The subject was Jane Lappitter, a woman of about sixty years of age, of a very spare habit of body, and who had been married, but as I understood, had never had children. It will, perhaps, be best to describe, in the first instance, the destruction of the various parts of the body, as they appeared when it was first discovered; and to give an account, afterwards, of the collateral circumstances which preceded, and accompanied it.

The body was found lying upon the left side, in rather a curved position; the greater part of it rested upon a large hearth stone, with the head placed in such a way, as to be nearly in contact with a wainscoting which came to the edge of a chimney piece, about five feet wide, in which was set a small grate, the bottom of it being about nine inches above the hearth stone. In the hearth stone were some small iron bars, to allow the ashes from the grate to fall into a recess underneath. It is doubtful whether there had been any fire in the grate at the time the accident happened, there was only a small quantity of ashes in it when the body was found. She had probably smoked a pipe, as was her custom before she went to bed, as an empty one was found standing upright upon the iron of the grate.

The whole of the viscera of the cavities of the thorax, abdomen and pelvis, were reduced to ashes, not a vestige of them in either being left. The column of the spine remained entire, but covered with a cineritious substance, with the vertebræ retained together by the connecting ligaments. The ribs of the left side, on which she lay, were gone from near the sternum, to within two or three inches of the back bone; but those on the right side were entire, and covered with the same cineritious appearance which was observed on the spine.

The whole of the muscles of the chest, back, and abdomen, were consumed, leaving the ribs on the right side, and the back bone, without any covering whatever. The fire extended downwards on the left side, destroying in its way, the glutei and neighbouring muscles, the ilium, the ischium as far as the sacrum, and the pubis, to near the symphysis; the femoris, the tibia, and fibula, to within about three inches of the ancle joint. Here the combustion ceased, and the lower portions of the tibia and fibula, and the foot, were found separated from the consumed parts. The shoe, and foot of the stocking, were upon the foot; neither of them, or the skin and flesh, having undergone the least alteration, but were in a natural state. All these solid bones through which the fire had extended on this side, together with their muscles and integuments, had undergone a complete decomposition, and were reduced to ashes, not a vestige of either of them being left.

The fire on the right, which as she lay was the side uppermost, did not extend downwards below the middle of the gluteus muscle; and the ilium, ischium, and pubis, of that side, together with the thigh bone, the bones of the leg and foot, and their skin and muscles, were uninjured, and preserved a natural appearance.

The combustion extending upwards, on the left side, had destroyed the scapula, with the ribs immediately under it; and extending over the shoulder towards the throat, had partially consumed the clavicle, and left no vestige of the trachea, œsophagus, or the neighbouring soft parts.

Proceeding upwards, a portion of the left jaw bone was gone. The line of burning then took an oblique direction, across the face towards the right side of the head, in such a way, as to destroy the lower portion of the nose, and the right eye, the soft parts being removed to the facial bones underneath, but which were not decomposed. The left eye, and the upper part of the nose had escaped, and were uninjured. The combustion ceased, after extending over part of the forehead on the right side, and the whole of the scalp, with the hair upon it, had not been touched, nor was the cotton cap with which the head was covered, in the least scorched, or injured in its texture. The right hand and arm, as high as the shoulder, had altogether escaped, and a portion of skin and flesh was continued upward from the latter, forming a connection with the posterior part of the right ear and scalp. The anterior portion of the ear was consumed, as it came within the oblique line of combustion, which had extended, as before described, across the face. The clothing was principally woollen, and consisted of two petticoats, a gown, and apron. Those portions which were under her, and in contact with the stone upon which the body lay, were, for the most part, reduced to ashes; but there were some parts, more especially portions of the shift, which was linen, that had the appearance of tinder; while that part of the clothing which covered the right side, and which was uppermost, was not much injured, and some of it the fire had not in the least affected. A chair was standing near the place where the body was found, upon which there was no mark of fire, and where she had probably been sitting; but whether she had fallen from it when the combustion began, could not be ascertained. I have thought it necessary to be thus minute in the description of this case, as some of the particulars mentioned may lead to important conclusions.

In the Coventry case, it is taken for granted that the fire had been communicated from without, but from the considerations which I shall venture to suggest, it will appear more probable that the combustion originated in the body itself, the causes of which, we are at present unacquainted with.

This poor woman was the humble companion and attendant upon an elderly and respectable person, of the name of Roper, who had a small competence upon which she lived. It was her custom to attend her mistress to bed, about ten o'clock, after which she used to come down to the room under, and where she generally smoked a pipe, before she herself retired to rest. On the night in question, it was past ten when she came down, and nothing occurred to excite notice, till about half-past two the following morning. About this time, Mrs. Roper was awoke

and alarmed by a loud noise, and a smell as if something was burning. The noise appeared afterwards to have been produced by the intensity of the heat having split the hearth stone across its centre, and in one or two lateral directions. She got up, and opening the window of her bed room, alarmed her neighbours, apprehending the house was on fire; but, from her fears, she did not at first come down stairs. The first person who came to her assistance, was a man of the name of Overbury, who lived in an adjoining house, and who immediately burst open the outer door, which opened into the apartment where the accident had happened. On first entering, he observed a slight lurid appearance, near the hearth, but not bright enough to enable him to judge, exactly, from what it proceeded. In a minute or two, and probably in consequence of the admission of air, a small blaze broke out, and which appeared afterwards to be the wainscot, with which a part of the burning matter had lain in contact. He immediately, with his wife, who by this time had come to his assistance, procured water from a neighbouring pump, and with three or four pails full thrown upon the place from which the light proceeded, extinguished the flames.

On procuring lights, they perceived a dark mass lying upon the hearth, which proved to be the remains of the body and clothes, in the position before described. The first thing that led to the discovery of the real state of the case, was one of the bye-standers taking up the foot covered with the shoe and stocking, and which, as before described, was separated, the bones above having been reduced to ashes. The room was filled with smoke, which had a disagreeable empyreumatic smell, and which had, in a degree, blackened the walls and furniture.

Having ascertained the fact, that it was the poor woman's body that had been burned, nothing further was then done; and the coroner having summoned a jury the next day, a verdict was returned of accidentally burned; and what remained of the body and clothes, was placed in a coffin for interment. I saw the remains early in the morning after it happened, and ascertained the particulars of the appearances, as I have related them.

The most striking and important peculiarity in this case, was the manner in which the combustion spread, or extended itself. The burned parts were separated from the skin and flesh that were uninjured, by an accurately defined line, on one side of which, utter destruction had taken place, while immediately adjoining, there was not the smallest injury done, the skin being sound and natural. The extension of the line of fire, was very like what takes place in a piece of ignited charcoal, or in a pastile, which spreads itself in the same way, by a perfectly defined line, reducing in its progress, to ashes, the portions it comes in contact with. In this manner, the left foot had been separated from the leg above, to no part of which, or its coverings, had the fire extended; and this was remarkably the case, in the oblique line it took over the face, where the lower portion of the nose,

and one eye, were utterly consumed, while the upper portion and the other eye, were untouched.

It was in this way, also, that it extended downwards, on the right side, to about the middle of the gluteus muscle: and upwards, where a bridge of skin and flesh, connected the right arm and shoulder with the scalp. In each of these, the fire was limited by a perfectly defined line.

It is not possible to ascertain, whether the combustion was still extending itself, when the discovery was made, or whether the water thrown upon the remains, had not stopped its progress. It has been said, that water has not the power of arresting it;* an assertion that appears to me to have been made without foundation, and contrary to all experience in analagous cases.

The progress of destruction by fire, when communicated by accident from without, has widely different appearances, familiar to every one who has witnessed extensive burnings of the human body. Where the structure of a part has been entirely destroyed, by the intensity of its application, the neighbourhood becomes scorched or blistered, and changed in its appearance and condition; but in no case is the mischief defined by so perfect a line, as in the instance just recorded. It would seem, also, that the intensity of the fire and heat, is greater in spontaneous combustion, than when it is produced by accidental causes. In the case of Lappiter, the hearth stone was not only split by the intensity of the heat, but the most solid bones of the body were reduced to ashes. This is never the case in accidental burnings. In the religious ceremonies of the Hindoos, the dead body is consumed on the funeral pile, and although the fire must necessarily be very powerful, it is not sufficiently so for the destruction of the bones; for after the burning is over, the son, or nearest relation of the deceased, first draws out from the ashes, the bones of the head, and afterwards the other bones successively, which are then deposited in a casket for interment.† In the Trojan War, Nestor advised that the bodies of the dead Grecians should be burned, and the bones carried back into Greece for interment.‡

In the case of spontaneous combustion, therefore, the heat must either be more intense than in accidental burning, or some change must have been induced in the body, rendering it more susceptible of the action of fire.

In the natural aptitude of the mind to theorize, and seek for an explanation of appearances not easily accounted for, it has been conjectured, and, indeed, asserted, that such a change is produced in the instance in question, by the immoderate and long continued use of spirituous liquors.|| But this explanation will hardly be insisted upon, when it is known, that the subject of the above case, had scarcely ever tasted spirits in her life time. She was

* Memoirs read at the Academie, Paris.

† Asiatic Researches, Vol. vii. p. 256.

‡ Hom. Iliad.

|| Pierre Aimé Lair.

a person of the most temperate habits, her drink consisting mostly of tea, with now and then, though seldom, a glass of beer. As she was subject to chronic rheumatism, she had latterly been in the habit of taking a good deal of horehound tea, from which, she fancied she had derived benefit. A case is mentioned of a Signora Zangari, aged sixty-two, of a most *unblemished life*, who met with this end at Cesena in Romagna, in 1731.* With this character, it is not probable that she was addicted to drinking spirits. In the present state of physiological knowledge, much reliance will not be placed on the arguments made use of in support of this opinion. It is said, "that people who drink much, eat little, and that of high seasoned viands, that the alcoholic parts they take, are but little decomposed; that they penetrate the muscles, and, as it were, saturate the whole mass; that persons who die drunk, send forth a vinous vapour, or odour, long after death: that the spirit dries up the flesh, and softens the fat, by which they are fitted for combustion; that the internal and inflammable vapour is ever ready to catch fire when prepared."† Arguments like these, scarcely need answering. In the Coventry case, as well as in some others, it is true, the subjects had been in the habit of drinking a great deal of spirit; but if this circumstance is capable of rendering the body liable to spontaneous combustion, instead of its being so very rare an occurrence, we should have instances of it every day. In the Coventry case also, the burning does not appear to have been so intense and complete as in the case of Lappiter. The bones were not entirely reduced to ashes, though approaching to it, for we are told, "that the bones of the skull, thorax, and spine, and the upper extremities, were calcined and covered with a whitish efflorescence; that the left femur was separated from the acetabulum of the ischium, and broken off about three inches from the great trochanter."‡

This last circumstance could not have happened, unless the bone at this part had been completely decomposed.

It may be remarked in this place, that it is probable some of the cases of combustion, which are recorded in such numbers by foreign authors, may have been from accidental burning in the ordinary way, where persons have been left by themselves; and it may be observed, that among French medical writers in particular, it too often happens, that when new opinions have been brought forward, there is in general no want of cases by which they may be supported. In the Memoir read before the Royal Academy of Sciences, at Paris, it is stated as one of the peculiarities of this combustion, "that incineration takes place in these spontaneous combustions, without any effect upon the most combustible matters in the neighbourhood." This is illustrated by an instance where a double combustion took place, upon two per-

* Mem. de Treviso, 1731.

† Pierre Aimé Lair.

‡ Wilmer's Cases, p. 258.—Philosophical Transactions.

sons at the same time, in the same room, and neither the apartment nor furniture was burned. This certainly is not the fact, for both in the case of Lappiter, and the one at Coventry, the fire had been communicated to adjoining substances. In the Memoir above alluded to it is also said, "that the parts of the body not attacked, are struck with sphacelus, and that a putrid degeneracy takes place, which soon leads to gangrene." This is a better description of burning from accidental causes; but how either of these conditions can take place, in a case which must, from the very nature of it, destroy life almost in the first instance, I am at a loss to comprehend. In the case of Lappiter, no change like sphacelus or gangrene, was observed in the skin and flesh to which the fire had not extended; but they preserved their natural appearance till the third day, at which time the remains were interred.

There is some faint analogy in the progress of the gangrene which takes place in the toes and feet of old people. In this case, there is often an accurately defined line, between the living and dead parts; but here the resemblance ends, for neither in its rapidity nor intensity, is there any similarity.

Should we venture to speculate upon a case so clouded with difficulties, it might be asked, at what period after combustion commences, does death take place? or, does it happen before it begins?

It is agreed upon all hands, that in every instance, the contents of the great cavities are destroyed. There must be some point where the combustion commences, and should this be in the lungs, or, indeed, in any of the viscera of the cavities of the thorax or abdomen, death must very early take place. It seems probable, from the history of the case of Lappiter, that the extremities became involved in the mischief, by the fire extending to them from the central parts of the body; and by reasoning from analogy, we should suppose that, when it had been once established, it would not cease of itself, until every part of the body was consumed.

In the two cases to which I have more particularly alluded, this could not be ascertained. The bodies were probably burning when discovered, and the further progress was arrested by the water that was thrown over them.

What is the peculiar condition under which spontaneous combustion takes place, we have at present no means of knowing; but that some important change must be induced, there can be no doubt; for if the body, in its ordinary state, was capable of taking it on, it would be a frequent occurrence, instead of its being so extremely rare.

In the absence of more certain lights to guide us in the obscure paths which lead to the distinction between healthy and diseased actions in living bodies, it may, perhaps, be excused, if we have recourse to hypothesis, in the hope of being assisted in our enquiries.

If hypothesis does not anticipate truth, it sometimes leads the way to it, and, like the scaffolding to a building, it helps us in keeping pace with the more solid edifice we are erecting.

The progress that has been made in physiological knowledge, since the time of the late Mr. Hunter, has undoubtedly been great. He led the way, by a closer attention to the processes of nature, more especially those that are connected with the principle of life, in animated bodies. He was able, in many instances, to detect the laws by which they are regulated, and his investigations have led to important and practical results, which have justly ranked him among the greatest Philosophers of the age in which he lived. The spirit of enquiry, in which with others he bore so distinguished a part, has been rewarded by very important discoveries; and among them, there are, perhaps, none more so than those relating to secretion, and the production of animal heat.

In reflecting upon the change that must take place in the human body, before it can take on so extraordinary a process as that of spontaneous combustion, we must necessarily be struck with the fact, that in every case of it, the thoracic and abdominal viscera appear to have been first consumed, although those parts are not in themselves of so combustible a nature as muscle and fat; and that in extensive burnings from accidental causes, they are the parts last destroyed. When we connect with this consideration, the important change produced upon the air in the lungs, in the function of respiration, we are naturally led to inquire, whether a morbid performance of this essential process, may not lead us somewhat nearer our difficulties, and if it should not assist us in their removal, enable us to ascertain their nature more distinctly.

The advance made in Chymical, as connected with Physiological, Science, is but of recent date; and although much has been ascertained, much yet remains to be done; but when we consider the progress that has been made, we should not despair of many points being yet cleared up, which still remain in doubt and uncertainty.

As late as the year 1746, it was contended by Dr. Martin, of St. Andrew's, that animal heat was produced by the attrition of the blood, in its passage through the blood vessels, and upon each other.

This opinion was controverted by Dr. Stevenson, of Edinburgh, who attempted to prove, that it depended upon a peculiar fermentation, which took place in the venous blood, more especially in the vena cava. The former supported his theory by mathematical demonstrations, in the fashion of the day; not being aware of what is now universally acknowledged, that all the important changes going on in living bodies, are regulated by the principle of life, to which this sort of reasoning is not at all applicable. The latter so little suspected its real source, as to remark, "that the cold air rushing into the spongy lungs, on the numberless air bladders on which the blood is almost superfi-

cially spread, should make the blood hot, is an improbable opinion, and supported by no proof."* This shews how little was known at that time, of the important changes produced upon common air, by the process of respiration; among which, none is more so than the conversion of its oxygen into carbonic acid gas, a discovery of but a few years' standing. It has been supposed by some, that a portion of the oxygen inhaled, is absorbed, and combines with the blood in those organs; and that, from this proceeds the remarkable change in its colour, which takes place in its passage through the pulmonary vessels, to the left side of the heart. This opinion, however, has been controverted, and with some appearance of reason; and it is contended on the contrary, that the *whole* of the oxygen inspired, unites with the carbon formed in the lungs, and is returned back, in the act of expiration, in the shape of carbonic acid gas.† Whichever of these opinions is the true one, there must, in either case, be a considerable disengagement of caloric, from its latent to its sensible state, and which, on all sides, I believe, is now agreed, to be the source of animal heat.

This is not the place to follow this argument in all its bearings.‡ but it may be observed, that oxygen seems to be the agent by which the constitution is divested of its carbon, the accumulation and retention of which, if we reason by analogy, we may conclude, would be attended with inconveniences, to an extent we are at present unacquainted with. It here becomes an obvious enquiry, by what process carbon is formed in the lungs? In the absence of any proof to the contrary, secretion would appear to be the most probable agent. This wonderful process, by which such a variety of substances are separated from the same circulating fluid, is one of the hidden secrets of nature, which we can scarcely expect ever to unravel. The most we know, is some of the laws by which they are regulated; and one of them, the most striking of all, is that by which the substance secreted, is varied and altered in its properties, by any alterations which take place in the actions of the glandular or secretory structure. In many cases, from this cause, secretion ceases altogether, giving rise to numerous deviations from health, familiar to all who have had much professional experience; while in others, substances are separated, in quantities greater than are contained in the blood itself, a familiar instance of which we have in the urine of diabetic patients.

Carbon is a bad conductor of heat, though in itself of a very combustible nature. If the process by which this substance is

* Medical Essays and Observations by a Society in Edinburgh.

† Ellis on Respiration.

‡ The different relative capacities of the gases for caloric, have been enquired into by De la Roche and Berard, and their conclusions are at variance in some respects with the Theory of Crawford, in his work on the production of Animal Heat. The experiments also of Mr. Brodie and Dr. Wilson Philip, upon the nerves, may be consulted.

separated in the lungs, should be deranged, or cease altogether, an accumulation of it would take place in the blood and habit; and to what extent this might go, we have no means of judging, any more than we have of the effects it might produce; but we may conclude, that oxygen continuing to be applied to the lungs in respiration, the same changes could not be produced upon it. The balance of proportions between the secretion of carbon, and the inhalation of oxygen being thus disturbed, the body may be rendered susceptible of impressions, for any thing we know to the contrary, of as formidable a nature as even combustion itself.

It may here be remarked, that carbon is not the only combustible substance formed in the human body. The bones of all perfect animals contain considerable quantities of phosphoric acid. Phosphorus, when ignited in oxygen, disengages more caloric, than any substance we are acquainted with.*

It appears, therefore, that there are elements sufficient to produce combustion to any extent, should they accumulate, and by any cause be brought into action; carbon, phosphorus, and oxygen, and to these may be added, electricity and hydrogen, the latter being formed often in large quantities, in the intestinal canal. These powerful agents, in the ordinary state of the constitution, are controlled and balanced by the active principle of life; by which combinations are prevented, which would immediately prove destructive to us. The production of phosphorus, which, like that of carbon, is constantly going on in the body, depends probably upon a process similar to secretion, and subject to the same laws, by which this function is regulated in other instances.

If the living principle was never interrupted in its actions, by artificial modes of life, and other adventitious causes, we should not so frequently experience those deviations which constitute disease; but it often happens that this principle, though generally acting for its own preservation, will follow a course leading to its injury or destruction. It is unnecessary to illustrate this by examples. They must be familiar to all who have had extensive opportunities of witnessing the progress of diseases. Such would appear to be the case, in the spontaneous combustion of the human body. There is here a wide and almost untrodden field for enquiry; embracing not only what may be called animal chemistry, but involving the connection that subsists between life, and the various modifications of matter of which we are composed, and the laws by which their union is regulated.

To return to the more immediate subject we have been considering, it may be remarked, that the spontaneous combustion which takes place in vegetable matter, as hay ricks, &c. and in the mixture of some mineral substances, bears no analogy to the case in question. The distinguishing character in this, consists in its happening to matter endued with the living principle, which, as long as it is present, and regulated correctly, enables it not

* Fourcroy.

only to resist the spontaneous changes to which it would be otherwise liable, but prevents, to a certain degree, the action of external agents upon it. An instance of this we have in the destruction of the stomach after death, by the action of its own secretion; most remarkable in the rabbit, where the contents of that organ are often found diffused in the cavity of the abdomen.

Whether death takes place before the combustion commences, the cases recorded afford no means of judging; but that life cannot long continue under it, must be very clear. The tie that connects life with organization, we are entirely ignorant of; and are often equally surprised at the tenaciousness with which, in some cases, it continues, and the readiness with which it is dissolved in others. It appears to me, that we are still in the dawn of our information, upon many of the important subjects I have alluded to; and as yet, unable to foresee or calculate upon the light that may be thrown upon them by future enquirers.

I trust I may be excused for having wandered so far into the regions of speculation, and I shall only add, that if a satisfactory explanation of the singular fact of spontaneous combustion of the human body should hereafter be discovered, it will most probably be detected, in the progress of a more enlarged and accurate knowledge of the function of respiration, than we at present possess.

There are, in some of the earlier writers, a few instances mentioned, which would appear to be of the nature of spontaneous combustion. Albert Krantz, who was Professor of Theology in the University of Rostock, in 1482, in his Historia Ecclesiastica de Saxonia, states, that when Godfrey of Bulloigne was in the Holy War, at Niverna, in 1099, a strange disease made its appearance, where men burnt, being touched with an invisible fire, that pierced into the very bowels and vitals, by occasion of which, the hands of some, and the feet of others, fell off. Donatus asserts, that a similar disease prevailed in Lorraine, 1089.

Eusebius, in his Histor. Ecclesiastica, Lib. ix. states of Maximinius, that his flesh was taken with a secret fire from Heaven, so that it was burnt, and by little and little, turned to ashes. There was no more any shape of man to be seen in him, nothing being left but a carcase of bones, all dry.

John Hitchell, a carpenter, of Christ Church, Hants, was supposed, together with his child, to be struck with lightning, and he lay burning for three days, till he was quite consumed to ashes.—*Baker's Chron. p.* 426.

Maffœi attributed it to lightning generated in the body. That electricity is an agent capable of producing important changes, there can be no doubt; and that it may be accumulated in the habit, is equally true; but unless a previous disposition has taken place, lightning of itself would not seem capable of producing human combustion, or it would sometimes happen in the numer-

ous cases where persons are killed by it. In the case which happened at Christ Church, it is supposed lightning was the cause, but of this no proof is given. The child is stated to have been struck at the same time; but if the same effects had been produced, the account of it would scarcely have been omitted.

In Bartholin. Hist. Anatom. cent. 3, hist. 70, a case is mentioned, from Petrus a Castro, of a lady, the wife of a Patrician of Verona, from whose body sparks of fire were produced, by slight frictions. These were probably electric, but no combustion appears to have been produced.

In the case of Signora Zangari, the whole body was consumed, except the face, skull, legs, and three fingers. The stockings and shoes she had on were not injured.*

ARTICLE VI.

Practical Observations on the Nature and Treatment of Inflammatory Dyspepsia.

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Of the numerous improvements which of late years have taken place in the practice of medicine, I know few of more value than those arising from the new views which have been taken of the actual state of the stomach in many cases of indigestion. It is not to be denied, that the functions of the stomach may for a time be imperfectly performed from accidental causes, without any permanent modification of its vascular system being established. The most healthy stomach may be over-loaded, or may be distressed, by the presence of indigestible aliment, and all the severest symptoms of dyspepsia may follow, and speedily subside; semota "causa" tollitur effectus; nor, perhaps, will they recur in the same individual, except upon a repetition of excess. Again, causes that do not act immediately upon the villous coat of the stomach, but upon the nervous system generally, or on remote organs, often disturb, impair, or, for a time, completely interrupt the digestive process; but upon the removal of the exciting cause, the stomach returns more or less quickly to its healthy state. Yet this is not always the case. Dr. Wilson Philip, in his Treatise on Indigestion, (pp. 102, 103,) has stated that a repeated occurrence of indigestion from nervous irritation only, has a tendency, sooner or later, to affect the circulating system of the stomach, and particularly the mucous membrane. "The vessels at length partaking of the disease, some tendency to inflammation must ensue."

Dr. Abercrombie, in an admirable paper published in the Ed. Med. and Surg. Journal, (v. 21, p. i.) has made some exceedingly valuable observations on the inflammatory character of many cases of indigestion, the progress of which is often so insidious

* Mem. de Treviso, 1731.

as not to excite due alarm or activity in the practitioner. The prominent symptoms of chronic inflammation of the mucous membranes of the stomach, are often confounded with those of simple indigestion. These are acidity, flatulence, and uneasiness of the stomach after eating, amounting generally to pain more or less acute and various in its duration. Sometimes the pain comes on immediately after eating, sometimes it lasts throughout the process of digestion, but it often subsides earlier. In general it may be inferred, that the nearer the inflamed portion of the villous surface is to the cardia, the sooner the pain is felt after eating. Often the appetite is good; oftener variable; frequently there is a great longing for those very articles of food which the patient knows from experience, would cause him the most uneasiness. In some cases there is constant uneasiness at the stomach; and sometimes there is tenderness of the epigastric region, upon pressure; but this is not always the case. I mean, if the examination be made fairly, by gradual and moderate pressure; as the soundest person would feel pain from the rough and violent punching to which I have seen patients subjected, upon a suspicion of disease in the stomach, or what is more frequently suspected, though less frequently in fault, the left lobe of the liver. If vomiting, preceded by uneasiness, or pain at the stomach, be of frequent occurrenee, and particularly if its frequency increase gradually, there is reason to suspect the commencement and progress of very serious mischief in the stomach. Wasting, if it be steady, however slow, is a very serious symptom, as it often will not occur in individuals who suffer much from frequent functional derangement of the stomach; digestion in them, though laborious, being at last performed, and the due nutrition of the body effected. Wasting, then, combined with the symptoms above enumerated, is a bad sign.

If a person have been subject for years to occasional attacks of sick head-ache, unattended by actual pain at the stomach, and if he cease to have sick head-ache, but begin to complain of uneasiness, or pain at the stomach, after his meals, it ought to attract his serious attention, for I have repeatedly observed, that the suspension of the sympathetic affection of the head, has been followed by organic disease of the stomach. Sometimes the reverse of this happens, and the sympathetically affected part takes on disordered actions, ending in organic changes.

The fatal termination of this kind of cases is various. Sometimes the atrophy is fatal before the organic lesion is of great extent. Often, ulceration beginning in the villous coat, perforates the stomach, but sometimes the changes which take place, have the character of carcinoma. The morbid sensibility of the stomach to the presence of food in these cases, is greatly augmented at the time when the diseased structure ulcerates; and there is then an aggravation of the constitutional symptoms generally. The large white tubercles described by Dr. Baillie, are not peculiar to the liver, for I have seen them occupying both

the stomach and the omentum; in the former instance they had passed into phagedenic ulceration.

Whether ulcers in the stomach ever heal, may be a matter of doubt, but that superficial ulcerations of the mucous membrane of the bowels, heal, I have not the slightest doubt, having repeatedly discovered, not only the cicatrices on dissection, but ulcers in the progress of healing, the edges and surfaces of which were very different from those that were spreading or stationary.

An accidental error in diet, may produce a state of the mucous membrane, which will either assume the character of acute gastritis, or go on more slowly in a subacute or chronic form.

A young lady, in good health, happened to be in a granary, and took up some thrashed wheat in her hand, of which she ate. She felt considerable uneasiness at her stomach for several days afterwards; her bowels were bound, and her appetite impaired. She took, by the advice of a medical friend, some strong opening medicine, which relieved her at the time. Shortly afterwards, she occasionally felt a slight pain in her stomach, soon after eating solid food, particularly animal food. This symptom continued for several weeks; she then began sometimes to vomit after her meals, particularly after meat. She found she was losing flesh and strength, and she became paler. Mild opening medicines and great care in her diet, always relieved her; but she never persevered long in any system, and had repeated relapses of her disorder. Six months from the time she ate the wheat, she asked my advice. She very often vomited, generally within an hour after her meals. She said her appetite was good, but she was afraid to eat. It was a dull pain she felt in her stomach after meals, a little to the left of the linea alba, under the ascending cartilage of the seventh true rib. The tenderness on pressure, at this part, was very trifling; but the cartilage of the rib immediately above it, was very tender when pressed. This, she said, was often the case. The tongue was furred in the middle, with a tenacious white mucus; the edges were clean, pale, and moist; countenance pale and languid; the pulse 80, small, *but not hard;* bowels generally rather bound. I asked her if milk agreed with her stomach, she said better than any thing, but that if she ate bread with it, it often gave her pain; she said water gruel agreed with her very well.

Upon my informing her that I considered a part of the stomach to be inflamed, and that she could not expect it to get well without strictly adhering to a diet that gave her no uneasiness; she replied, that she would keep to any rules that were likely to be of service to her. She was directed to live exclusively upon milk, milk and water, and gruel. If the milk disagreed with the stomach, to add to it a small quantity of carbonate of magnesia; to apply six or eight leeches every second or third day, to the epigastric region, and to take a dose of the following mixture early in the morning, occasionally.

℞ Magnesiæ sulphatis, ℥ vi. Magnesiæ carbonatis, ℥ i. ss. Mannæ, ℥ ss. Aquæ menthæ viridis oss. Dosis sit cochlearia magna iij. cum pari mensurâ aquæ fontanæ mista.

Upon this plan the symptoms soon disappeared. She had, occasionally, small blisters applied to the epigastrium, and gradually returned, without inconvenience, to her usual diet.

Mr. P. æt. 32, a spare, healthy, active man, after running up a long flight of stairs, in the Summer of 1825, had suddenly great pain and tightness, referred to the situation of the heart; this went off, but afterwards, for more than a month, he had repeated attacks of palpitation; but these also gradually subsided, and he had no illness until the August of 1826, when having occasion to preside at a public dinner, he drank largely of very strong and new port wine. The following day, he vomited repeatedly, and took little nourishment. The next day his stomach was quieter, but, to use his own words, "whatever he ate or drank seemed to burn him, from the middle of his chest to his stomach," and brought on palpitation of the heart. For seven or eight days, this morbid sensibility of the œsophagus and stomach continued, and the attacks of palpitation after meals. The bowels, which had before been regular in their action, became costive, and his spirits were much depressed. After the distressing sensation of heat had gone off, he felt the greatest inconvenience after his breakfast, namely, great distension of the stomach, flatulence, and palpitation of the heart.

In October, these symptoms were still urgent, and I first saw him. He had lost flesh. He was very much alarmed about his disorder; his pulse was irregular, quick, and small, *but not hard;* the apex of the heart, when he was in the upright posture, pulsated between the fifth and sixth ribs. Gradual and moderate pressure produced uneasiness immediately below the ensiform cartilage. The tongue was furred at the back part, and down the middle, but the tip and edges were clean and red; the mouth was clammy in the morning; bowels costive.

This case proved very tedious, partly owing to relapses arising from errors in diet, and excess in bodily exercise; but the general plan of treatment, which was that of occasional leeches to the epigastrium, the avoidance of stimulating food and beverage, moderate horse exercise, and the use of occasional aloetic aperients, was eventually successful.

The lower class of people often bring on a state of stomach analogous to that which existed in the two preceding cases, by taking large doses of Glauber salts, in very concentrated solution; and I have reason to think that the habit of drinking too hot tea, sometimes induces it. Certainly, the bad custom of drinking ardent spirits, brings on a similar condition, but it is often, when induced by this cause, very insidious in its progress, and the structure of the stomach, as well as of the liver, has frequently suffered serious organic change, before the deluded victim applies for relief.

Some individuals have repeated attacks of inflamed tonsils, pharynx, sneighderian membrane, or larynx, dependent upon the coexistence of chronic inflammation of the mucous membrane of the stomach. In these persons, pain and uneasiness in the epigastrium, and an increase of habitual dyspepsia, precede the appearance of the catarrhal symptoms, and the latter often occur independently of any exposure to cold. If, in the treatment of this kind of cases, the attention be directed chiefly to the removal of the epigastric pain and tenderness, and by judicious diet to obviate gastric irritation, and the consequent dyspepsia, the catarrhal symptoms speedily give way.

It is proper, however, to bear in mind, that the occurrence of any degree of inflammation in the mucous membranes, may be produced by the impression of cold upon the skin, and particularly upon the feet; and that the mucous membrane of the alimentary canal forms no exception to this law. This will shew the importance of paying attention to maintaining in this variable and humid climate, a due warmth and dryness of the skin, and particularly of the lower extremities, in persons subject to dyspepsia; for independently of the direct sympathy between the surfaces by which the functions of the stomach are invigorated, or enfeebled, according to the state of the skin, and vice versa, the functions of the skin modified by the state of the stomach, inflammation may be aggravated or produced by the application of cold to the surface of the body. These cautions are peculiarly applicable to individuals who labour under any chronic disease of the skin, as the disappearance of long established disease of the skin, is often followed by inflammation of mucous surfaces.

This state of stomach is often the consequence of the internal use of mercurial preparations; and when it exists, I know of no preparation of mercury which has not a tendency to aggravate it, a circumstance that often places the practitioner in an unpleasant dilemma: for an inactive liver, or depraved biliary secretion, is not an unfrequent concomitant of dyspepsia gastrica in all its forms, and therefore medicines which act favourably on the function of the liver, are decidedly indicated. The local and constitutional disturbance arising from the baneful action of mercurials on the mucous membrane in this kind of cases, led Mr. Abernethy to give what he called small *unirritating* doses of blue pill at night, and to lay great stress on the mode of preparation of this medicine. The fact is, that he found himself baffled in his curative intentions, if the irritation of the mucous membranes of the alimentary canal, induced constitutional disturbance sufficient to counterbalance the benefit derived from the increased activity on improved function of the liver. When Dr. W. Philip applied his enquiring mind to the investigation of the nature and treatment of indigestion, it did not long escape his sagacity, that great caution was often necessary in the administration of mercurial medicines, and so exceedingly small were the doses he administered, and their action so cautiously watched,

that both his practice and his views at first excited ridicule among a class of practitioners who had not, like himself, closely studied the subject. But if it be borne in mind that the whole body, even to its remotest part, and most trifling function, sympathises most readily with the surface in which the roots of the animal are planted, even when this surface is in a healthy state, it cannot be matter of surprise that all these sympathies should be exalted in intensity, or even, if possible, multiplied, when this surface has its sensibility morbidly increased; and this, indeed, we find to be the fact.

The mildest preparation of mercury is the hydragyrus cum creta, and when we are absolutely obliged to give mercury in repeated doses, we can often, with propriety, only prescribe this. Sometimes one dose of calomel, of two, three, or five grains, will restore for some time a natural secretion of bile, and attention to the state of the stomach and bowels will complete the cure, without our being under the necessity of running the risk of repeated doses of mercurial medicines. From long observation, I am convinced that the union of ipecacuanha, or antimonial powder, but in particular of ipecacuanha with blue pill, enables us to produce more decided effect on the liver than we could by blue pill alone. The advantage of this is very great, for the blue pill may be gradually reduced, and at length, entirely omitted in the preparation, and the healthy secretion will continue under the sole exhibition of the ipecacuanha. There is not a fact in the practice of medicine, of the truth of which I am more satisfied than I am of this, and I have found a knowledge of it exceedingly useful.

There is a medicine of great value in the treatment of morbidly sensible stomach, which has been little used in medicine, excepting in the composition of gargles and linctuses for the throat, mouth, and fauces. I mean the subboras sodæ. I was first led to the trial of this medicine, by reasoning upon the salutary effect it has upon aphthous ulcerations of the mouth and fauces, when used as a gargle; the morbid action of the membrane often ceasing in a few days after its application, and every trace of ulceration disappearing, a fact known to every nurse. The appearance which portions of the villous surface of the stomach and intestinal canal, had in some post mortem examinations exhibited, really so closely resembled what I should call an aphthous appearance, and the inflammation was so superficial, and so entirely confined to the mucous membrane, that I could not help thinking that a medicine which had so marked an effect at the top of the passage, might have some salutary influence lower down.

I give from ten grains, to half a drachm, of borax, in solution, three or four times a day, and add, sometimes, one or two drops of laudanum to each dose, according to circumstances. This appears a very small dose, of an opiate, to quiet gastric irritation, but in combination with the solution of borax, I have seldom found a larger dose necessary.

The stomach and bowels are often left in a highly sensible state for some time after recovery from continued or remittent fever, and the liability to relapse, from errors of diet, (the most frequent cause of relapse,) is proportional to the degree of morbid sensibility of the mucous membrane, induced and left by the previous attack. A gentleman who, by accident, took an over dose of nitre, continued for years afterwards harrassed by dyspepsia, although his stomach had never caused him any inconvenience before. Abstinence, and the use of mild mucilaginous and milk diet, a very dilute solution of magnesiæ sulphas, with the addition of carbonate of magnesia; occasionally an aloetic purgative, and the solution of borax, with or without laudanum, according to circumstances; leeches occasionally to the epigastrium, and small blisters; have been the remedies employed for his relief, and always with benefit, not only at the time, but with a gradual and permanent melioration of the digestive powers of his stomach.

Before I conclude the consideration of what may be called superficial excitation, with more or less inflammatory action of the villous tunic of the stomach, I must make one observation, which I consider of the greatest importance. The pulse in this form of the disease, is not always hard, and often is not much accelerated, and yet the judicious treatment of the malady is strictly antiphlogistic. The *local* morbid sensibility alone being sufficient to indicate the propriety of this practice, and the successful issue of the cases so treated confirming its correctness.

Speaking from the results of my own experience, I should say that if the symptoms of the state above described, were attended by an uniformly hard and quick pulse, the commencement or progress of serious organic change, or the spread of the inflammation to the serous membrane, ought to be apprehended.

The pulse is always hard in cases of scirrhous pylorus; to this I do not remember an exception, and in all cases where organic disease had involved the whole of the gastric tunics, the pulse has been hard. An uniformly hard pulse, particularly if attended by wasting, is the worst symptom the dyspeptic can present to his physician. Perhaps it may be objected that I have confounded irritation of the mucous membrane of the stomach, with inflammation of it, and that many of the symptoms of the cases I have described, might exist without the actual presence of inflammation. To this I answer, that theoretically it is very difficult to define the exact point where irritation ends, and inflammation begins; that irritation always produces an increased afflux of blood to the part irritated, which is certainly the first visible change in the inflammatory process; and lastly, that practically the distinction is not of so much importance as many practitioners imagine, since the antiphlogistic treatment is adapted to both states.

That severe dyspeptic symptoms often yield to bitters, and the class of tonic medicines, is true; but it is equally true that these

medicines often aggravate the disorder. The judicious and well-timed use of bitters, and mild aromatics, in dyspepsia, is often of the greatest advantage; but the most experienced practitioner will find it extremely difficult to decide in any particular case, when they can with propriety be used. My plan has been, to give, first, very mild bitters in weak infusion, combining them with laxative medicines, and *if they agree*, gradually to increase the strength of the infusion or intensity of the bitter. But with regard to this class of medicines, it may be laid down as a rule, that the smaller the quantity, and the milder the preparation is, upon which the stomach can recover its powers, the better, for as their efficacy seems to arise from their primary impression on the nerves of the stomach, a habit of depending upon them is soon acquired, and the stomach is injured by the frequent repetition of this peculiar stimulus.

I have not yet mentioned alkaline remedies. They, indeed, are most valuable palliatives; but, with the exception of the sub-boras sodæ, I do not consider them as having any direct power in counteracting the state of the stomach, upon which the morbid generation of acid depends. If there be present an excess of acid in the stomach, causing distress, they afford relief by neutralizing it, and removing, for a time, one source of irritation. The mineral acids, in small diluted doses, particularly the muriatic and sulphuric, and even the vegetable acids, as the citric, tartaric, and acetic, will often check the morbid generation of acid in the stomach, when alkaline remedies have been exhibited in vain.

ARTICLE VII.

Of the Otorrhœa Purulenta, *or* Chronic Puriform Discharge *from the* Ear.

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In a valuable treatise on the diseases of the ear, by Mons. Itard,* it is remarked that the chronic puriform discharge from the ear, is one of the most frequent and most serious complaints to which that organ is liable; and that every practitioner conversant with the disease, must have been struck with its endless continuance, as well as with the difficulty and danger which attend its cure, and with the fatal result to which it not unfrequently leads.

The ultimate tendency of the otorrhœa, is to produce cerebral disease, which is apt to destroy life sooner or later; but as its progress is insidious, and not indicated by alarming symptoms,

* Traité des Maladies de l'Oreille et de l'Audition: par J. M. G. Itard. à Paris, 1821.

except at intervals, and as, when the alarming attacks supervene, the sufferings are referred to the brain, and the signs also point to that organ, it is not uncommon for these cases to be looked upon as purely brain affections. Nor is the error always cleared up by dissection, because the morbid appearances in the brain present a satisfactory cause for the violent symptoms and fatal termination, and the caries of the temporal bone, (which is seldom extensive or conspicuous on its cerebral surface,) is either not observed, or is considered the effect of the cerebral disease, rather than as the means by which the disorganization has spread from the ear to the brain. This I am persuaded is no uncommon case, having myself seen it happen to persons much accustomed to morbid dissection.

Again, the symptoms of the otorrhœa purulenta, at the commencement, are confined to the ear, and the patient placed under the care of the aurist: by and bye, as the disorganization advances, the cerebral symptoms manifest themselves, and so predominate generally, as altogether to obscure their connection with the ear; and now the case is transferred to the medical practitioner. The aurist has no opportunity of witnessing the progress of the complaint from the ear to the brain, nor has the practitioner of tracing it back from the brain to the ear, and thus the chain of circumstances is broken to both.

It is not to be inferred from these remarks, that the sad consequences of the otorrhœa are not familiar to many individuals who have given much attention to diseases of the ear, for their works contradict such inference; but nevertheless, they are not familiar to the profession generally, and the accounts which have been more recently published, are to be found in works on the pathology of the brain, which tends rather to confine our views to this organ.

The otorrhœa is a chronic discharge from the ear, and may proceed from the organ itself, or from suppuration in some neighbouring part. The discharge may consist of mucous or of pus, forming the otorrhœa mucosa, or the otorrhœa purulenta: the purulent discharge is not unfrequently preceded by the mucous, and both are the consequence of inflammation. The mucous otorrhœa or catarrh, is met with in children particularly, and being confined to the external meatus, is seldom of serious consequence, and generally yields to treatment, or subsides at the age of puberty. The purulent otorrhœa, on the contrary, is deep seated and dangerous; and it is this kind which forms the subject of the following observations.

The ear is divided by anatomists, into the external, middle, and internal; the external comprehending the meatus externus; the middle, the cavity of the tympanum, and its contents, the bones of the ear; and the internal, the vestibule, semi-circular canals, and cochlea. Now inflammation may attack these parts separately or simultaneously, and being similar to the inflammation of mucous membranes, may produce a mucous or purulent

discharge, with or without ulceration. It is an inflammation of the mucous lining of the tympanum which more generally gives rise to the purulent otorrhœa; and the peculiar anatomical construction of this part, opposes the discharge of the secreted matter, the simple retention of which is the cause of the serious mischief.

The inflammation of the tympanum, or the otitis interna, manifests itself by a severe pain deep seated in the ear, which rapidly increases, and affects the whole corresponding side of the head, producing an intense hemicrania. A sympathetic febrile movement is quickly developed; the pain extends itself in the direction of the eustachian tube, and of the mastoid cells, and is exceedingly aggravated by the slightest noise, or the least motion of the head. The pain now acquires a throbbing character, the middle ear; viz. the cavity of the tympanum, is soon filled with a muco-purulent secretion, which having no outlet, in consequence of the canal of the eustachian tube being obstructed by tumefaction, produces a most distressing sensation of tension. To these symptoms, delirium not unfrequently succeeds, and all the sufferings continue without remission until the confined matter has worked itself an outlet.

The matter thus accumulated, may discharge itself by three ways: through a spontaneous perforation of the membrana tympani, or by the eustachian tube, or through a fistulous opening in the mastoid process. Of these three ways, the first is by far the most common, according to Mons. Itard. After several days of extreme suffering, the ulcerative perforation of the membrana tympani is effected, and there takes place unexpectedly, a copious discharge of matter from the external meatus, which is immediately succeeded by a subsidence of the violent symptoms. In some instances, the confined matter is said to discharge itself first by the eustachian tube, but from my own experience, a discharge of matter does not take place by this canal, until the inflammation has been relieved by the spontaneous perforation of the membrana tympani, and the channel of the eustachian tube restored, by the subsidence of the inflammatory tumefaction by which it had, till now, been obstructed. In this case, the discharge will continue both by the meatus externus, and the eustachian tube, simultaneously; or, what happens more frequently, it will alternate.

The purulent otorrhœa does not, however, always begin with such an acute form of attack as that above described. It is often established gradually, and produced by inflammation travelling from the throat along the eustachian tube, to the tympanum, which happens particularly in the inflammation of the fauces attending eruptive diseases, and hence the date of the otorrhœa is frequently referred to the period when the patient had the small pox or scarlet fever. In these instances, the symptoms are less severe and more confined to the ear, and the perforative ulceration of the membrana tympani, is slowly accomplished.

In ordinary cases of local inflammation, the disease would not only subside, but cease, after the part had relieved itself by an abundant effusion; and such, no doubt, would be the favourable course in the present instance, was it not for the retention of the matter in the tympanum, from its peculiar anatomical conformation, as before observed.

It has been already said, that matter may be discharged from the tympanum by three ways, but of these one only offers a favourable outlet, viz. the eustachian tube, the opening of which is situated in the anterior and internal angle of the floor of the tympanum. Of the other two, the opening into the mastoid cells is placed at the upper and back part, and when the matter shall have even found its way through it into the cells, it cannot be evacuated, except through a carious perforation of the root of the mastoid process; and the discharge of the matter through the meatus externus, is also opposed by the membrana tympani, which must be first perforated by ulceration; and this being effected, there is a further impediment in the meatus itself, which is arched in such a manner, that the highest point of the arch is on a level with the middle of the tympanum, and therefore, like the opening into the mastoid cells, it resists rather than favours the spontaneous emptying of this cavity. And in very many cases, the eustachian tube itself is so contracted, or altogether closed, that even this channel is obstructed, and an unavoidable retention of the secreted matter is the consequence. Under these circumstances, the matter lodges in the tympanum, as in a well, and gives rise to a train of formidable symptoms, which constitute the second stage of the disease, and which I will now proceed to describe.

The wise provisions and vast resources which nature displays in the cure of disease, and which daily excite our admiration, prove altogether insufficient in the suppurative inflammations of the middle ear, for, in spite of her great efforts by the perforation of the dense membrane of the tympanum, and of the compact bony structure of the mastoid process, matter will necessarily lodge, and provoke an insidious but destructive disorganization.

The progress of this disorganization is slow, but continual, and may go on for many years without destroying the patient. It is attended only by obscure symptoms, except when, from accident, the taking cold, an attack of inflammation invades the whole of the diseased parts, and an alarming train of symptoms will spring up and threaten life; and it is by one of these attacks that the sufferer is sooner or later cut off.

The confined matter having worked itself an outlet, by the ulcerative perforation of the membrane of the tympanum, the first stage of the disease is terminated, and the continual lodgment of matter from the causes above detailed, now begins to operate injuriously on the containing parts, and the second stage is established. The perforation of the membrana tympani giving access to the air, the retained matter is decomposed, and its irritating

qualities increased, by which the lining membrane is exulcerated, and the bony structure exposed.

The parts which suffer earliest, are the mastoid cells, in which the matter is the more pent up, and they become the first seat of the carious disorganization: the slow advance of the caries is indicated only by obscure signs, so that the bony structure of the ear is undermined, before we are aware. For a considerable period, there is little else complained of than an obscure pain in the region of the middle ear, and from thence diffused over the corresponding side of the head, and the sense of hearing of the affected organ, is blunted. The face is apt to be sweaty, and the hair greasy, and in most cases, too, the inflammation in the first stage has affected the posterior nares, and produced a thickening of the lining membrane, which obstructs the passage of air, and leaves the voice thick, and obliges the patient to respire through the mouth; all which things give a dull and rather vacant expression to the countenance.

As the caries advances, the mastoid process becomes tender on pressure, and the integuments about it puffy and vascular; and by and by, the perforation of the bone being completed, the matter escapes, and forms an abscess underneath the integuments. The point where the carious perforation happens, is generally at the anterior part of the groove, from which arises the digastric muscle. The abscess does not burst readily, but extends itself upwards behind the ear, the soft parts offering less resistance in this direction; but there are examples in which the abscess descends under the stylo-mastoideus, and points low down in the neck; it never extends backwards, being prevented by the digastric and trachelo-mastoid muscles, and the deep cervical fascia.

The caries of the mastoid cells does not confine itself to this outward direction, but spreads on every side, and next affects that part of the posterior surface of the base of the petrous portions of the temporal bone, which forms the fossa for the lateral sinus, and the posterior wall of the mastoid cells; the bone is here naturally thin, and when carious, presents a worm-eaten appearance. Through these carious perforations, the matter penetrates, and irritates and detaches the dura mater, and gives rise to more decided cerebral symptoms. The same thing sometimes happens on the superior surface of the petrous portion, in that part which forms the roof of the mastoid cells, but the bone being thicker at this point, is less easily penetrated. Should the patient survive, the caries will go on to ravage the internal ear, viz. the labyrinth: the membranes which close the fenestra ovalis, and the fenestra rotunda, are destroyed, and the small bones of the tympanum discharged through the external meatus; the irritating matter insinuates itself into the vestibule, semicircular canals, and scalæ of the cochlea, which, like the mastoid cells, it disorganizes; and in this way all the sinuosities and cavities, and bony fabric of the ear, are destroyed, and confounded together; and the petrous portion and mastoid process of the temporal bone, present one large carious excavation.

In the course of this general devastation, is involved the aqueduct of Fallopius, and the portio dura and facial nerve, the disorganization of which gives rise to particular symptoms, as neuralgic pains, convulsive twitchings, and lastly, paralysis of the muscles of the corresponding side of the face.

At a period earlier or later in the progressive caries of the temporal bone, the membranes of the brain become affected, which happens as soon as the carious perforation has penetrated to the dura mater. This membrane being now exposed to the irritation of the corrupt secretion from the ear, inflames and suppurates, and becomes detached, by the matter burrowing between it and the skull. In this stage, the patient is sometimes carried off by a meningitis; at other times, the destructive process will go on to cause ulceration of the dura mater, and of the other membranes, and lastly of the brain itself. The ulceration of the brain may be superficial, or may penetrate deep into its substance, and form a suppurating cavity, bearing the aspect of an abscess, and which, in some cases, will be so extensive, as to occupy the whole of the middle lobe of the corresponding hemisphere.

While the disease is confined to the ear, the symptoms are also; the sympathetic pain in the head radiating from this organ as its centre: but immediately the membranes of the brain become involved, then the cerebral signs predominate, and obscure the original disease. The otorrhœa varies much in quantity, particularly if the eustachian tube is pervious, being at one time profuse by the meatus, at another by the tube. The discharge by the tube is manifested by an offensive dark matter being mixed with the sputa, and which collecting in the pharynx during sleep, is hawked up in the morning in considerable quantities. At times, however, the discharge is suppressed altogether, as when the patient takes cold in the ear, and during this period, the pain in the ear and head is very much increased, and attended with more or less symptomatic fever; all which disturbance is relieved by a return of the discharge. Attacks of this nature are frequent.

The disorganization of the ear is seldom accompanied with dangerous symptoms, unless it shall have reached the labyrinth, the exquisite sensibility of which, when heightened by inflammation, aggravates the patient's sufferings to distraction. But this is not the usual course, for the labyrinth resists the invasion of the disease, which first ravages those parts where the cause of the retention of the matter operates, that is, on the mastoid cells, for which reason the disorganization frequently goes on to affect the brain, and destroy the patient, before it has penetrated the labyrinth.

The membranes of the brain being once concerned, the pain in the head prevails forthwith, and is not referred to the ear as its cause; and if from accident the otorrhœa is diminished or suppressed, the patient experiences an attack of meningitis, more or less severe. The more extensive the disorganization, the more severe the attack, and the more dangerous. Some patients

will weather through many of these attacks, and die exhausted by long suffering; some will be cut off by the attack which generally supervenes, on the disease first reaching the dura mater, when dissection will discover only a circumscribed inflammation of the detached surface of that membrane, with a little pus between it and the skull. A fatal inflammation of the meninges of the brain is apt to occur also at the formation of the abscess, at the root of the mastoid process.

It is at one of these periods of the supervention of inflammation of the membranes of the brain, that the practitioner is commonly called in, and his first impression of the complaint is, that it is an idiopathic meningitis, between which and the exact nature of the case, it is so far important to distinguish, that the blood-letting required to save the patient in the one instance, would destroy him in the other. The diagnosis is to be sought for in the character of the signs.

In the inflammation of the membranes of the brain in cases of the otorrhœa, there are prominent local signs as regards the head; that is, there is a deep-seated severe throbbing pain in the middle of one side of the head, with great tenderness of scalp on the same side, so that the patient cannot lie upon it; the suffusion of the face and conjunctive membrane, is not marked, nor is the expression of the eye vivid, and though there is delirium, it is little active, and is complicated with a heaviness of the head and some stupor; the symptomatic fever is not ardent in proportion to the urgency of the local signs, nor is the force of the circulation great in the same proportion, for the pulse is rather tight than full, and sharp than strong, and there is a marked exacerbation of the febrile state at night, while it is moderate in the day.

In the idiopathic inflammation of the membranes of the brain, instead of local pain, there is a sense of constriction over the whole head, without any particular tenderness of the scalp, or inclination to lie on one side; the suffusion of the face and conjunctiva is very marked, and the expression of the eye is vivid and the delirium active, without heaviness of the head or stupor; the attendant fever runs high, and though it may have exacerbations, it is continually urgent, and the force of the circulation is very decided, the pulse being full and strong.

These distinctions cannot fail to strike the practitioner who has a precise knowledge of disease, but wanting this, he will be apt to confound the two states, as was the case in one of the examples which I shall by and bye adduce.

Treatment.—The treatment of the otorrhœa may be spoken of under two heads, of which, the one embraces the means wherewith to check the discharge, and arrest the carious disorganization of the ear; and the other wherewith to relieve and subdue the occasional attacks of inflammation which endanger or destroy life. In the foregoing part of this paper, I have remarked the untractable nature and dangerous tendency of this disease, and therefore it will not be wondered at that I have so

little to propose that can be efficacious as a cure; yet admitting a cure to be impracticable, (which is not the case always,) it is a material object to possess such an exact knowledge, as to determine how far the disease admits of relief, and so to guard against doing harm, which, I take leave to observe, is no contemptible acquirement in the practice of the healing art.

As, after a puriform discharge from the tympanum is once established, the subsequent mischief results from the retention of the matter, the chief indication in the treatment is to prevent such retention. This can be done only by washing out the tympanum by injections; because, notwithstanding the eustachian tube may be pervious, and its inclination favour the natural discharge of the matter, its canal grows so narrow as it approaches the tympanum, that it offers an insufficient outlet in its sound state; and when irritated and inflamed, and tumefied, by the diseased secretion, it is nearly closed, and in very many instances obstructed altogether. Little can be expected, therefore, from the natural evacuation of the matter by this canal.

The membrana tympani being perforated by ulceration, admits the use of injections by the meatus externus, by which means the tympanum may be cleansed without much difficulty; but the formidable obstacle to a cure, is the lodgement of matter in the mastoid cells, the opening into which is, it will be remembered, at the upper part of the tympanum, so that when matter has once flowed into them, it cannot evacuate itself, nor be dislodged by injections through the meatus externus. There is only one means which suggests itself for the effectual removal of the matter thus retained, and that is, the perforating the mastoid process by any fit instrument, so as to form a free external communication with the cells through which injections may be passed. In this way it would be practicable, by injections forced through this artificial communication, as well as through the meatus, to prevent any lodgement of matter either in the cells or tympanum, and thus do away the cause of the disease. Should the membrana tympani not have been perforated by ulceration, and the discharge have taken place only by the eustachian tube, the artificial perforation of the mastoid process would offer equal advantages, the injections then passing directly from the cells through the tympanum, and down the eustachian tube into the pharynx, and all the parts of the ear would be thus relieved from any lodgement of matter.

The advantages which this plan of treatment suggested by the anatomy of the ear, holds out, have been realized, according to the authority of the younger Sprengel, who has spoken favourably of it in his History of Surgery:* but in my own experience, which is limited, I have not had an opportunity of witnessing its success, for, although I have at present cases under treatment,

* Wilhelm Sprengel's Geschichte der chirurgischen Operationen, oder Zweiter Theil von K. Sprengel's Geschichte der Chirurgie.—Halle, 1819.

which would in all probability be benefitted by the operation, it is difficult to obtain the consent of the patients, because their sufferings are not acute, except at intervals, and then only for a few days. As to the composition of the injections it matters little, the object being to wash away the retained matter, and warm water or milk and water will answer this purpose, as well as any thing more medicated; but Mons. Itard recommends astringents, particularly the caustic potass dissolved in rose water, and his authority is of greater weight than my own.

Before having recourse to injections, care must be taken to ascertain the exact stage of the disease, because they cannot always be used with safety. So long as the caries is confined to the ear, there need be no hesitation in administering injections, but when it has penetrated the skull they are inadmissible, lest any part of the fluid should be forced within it, the consequences of which might be fatal. The character of the symptoms will point the extent of the disorganization, and inform us correctly whether it has reached the brain. While the disease has not extended beyond the ear, the sufferings are correctly referred to this organ by the patient, the pain being deep seated in the ear, and radiating from it over the side of the head; but as soon as the dura mater and brain are involved, the symptoms of cerebral affection predominate, the complaints now being all directed to the brain. This diagnosis will be a safe guide, and should be borne in mind.

It remains for me to consider the treatment of the occasional attacks of inflammation which endanger or destroy life. These are severe according to the stage of the disease at which they supervene. While they affect the ear only, they need not excite alarm, because they subside in three or four days by the application of a few leeches to the mastoid process, and by mild antiphlogistic treatment. When, however, the disease has extended to the dura mater and brain, the attacks of inflammation affect these parts, in common with the ear, and the symptoms assume a very formidable aspect. But it must be remembered that the cause of these attacks is the check given to the discharge of the matter, either by cold or accidental obstructions, and that therefore the symptoms partake of irritation, and do not consist altogether of inflammation. There is a train of actions set up in a part of the brain depending on a local cause, which cause being done away, the undue actions subside. For this reason every means must be sedulously adopted to encourage a return of the discharge, as fomentations and poultices to the side of the head, and blood-letting must be employed only so far as to keep the inflammation within limits consistent with life, for if blood is drawn ever so freely, it cannot put an end to the attack, the cause still operating, and as soon as the discharge returns, the patient will sink. In every attack of this nature, the practitioner should examine the affected side of the head attentively, as an attack is apt to supervene at the moment of the formation of abscess be-

hind the ear, from the carious perforation of the mastoid process; in this case a free incision is to be made into the fluctuating tumor, and the matter allowed to discharge itself, which will at once alleviate the sufferings, and give a favourable turn to the symptoms, provided discretion has been observed in the abstraction of blood.

[*We are compelled to defer the insertion of the cases which illustrate this paper, till the next number.—Ed.*]

ARTICLE VIII.

Case of Fracture of the Os Calcis.

BY MR. CUSTANCE,

Surgeon to the Kidderminster Dispensary.

Sir,—The following being, so far as I can ascertain, a case perfectly unique in surgery, you will, perhaps, consider it worth inserting in the Midland Reporter.

Mrs. D. a respectable woman, aged 50, was an outside passenger upon the Wolverhampton coach, when it was accidentally overthrown near Broadwaters, about half a mile from Kidderminster, on the 6th of November, 1824. Mrs. D. was thrown upon her left side, and the ridge of the top of the coach falling upon her left heel, fractured the os calcis, just below the insertion of the tendo Achillis. The fractured portion of bone was drawn up by the violent contraction of the gastrocnemii muscles, as high as five inches from its former position, to its upper edge. My friend, Mr. Doughty, a surgeon in Kidderminster, being near the spot at the time, rendered the poor woman immediate assistance, but did not then fully ascertain the precise nature of the injury. The next morning, he requested my attendance. After a minute examination of the foot, which exhibited a most singular appearance, partly from the swelling, and partly from the misplaced portion of bone, we were satisfied that there was no dislocation of the joint, but that the distortion was occasioned by the fractured part of the os calcis having been drawn up to the situation described. Every attempt to replace, or even to move it, was in vain. Notwithstanding the usual antiphlogistic means were seduously employed, an extensive inflammation of the whole leg ensued, with sphacelation of the integuments, and sloughing of that part of the tendon, which was attached to the piece of bone, and also of the cellular substance all around it, exposing it distinctly to view. It was, however, so firmly attached to the parts beneath, that it could not be moved in any direction. We expected that it would, in time, all slough out, but only its upper surface exfoliated. Granulations, by degrees, filled up the surrounding parts, and the piece of bone was completely covered with new integument, at the end of four months from the accident. It was between four and five months before Mrs. D. could attempt

to walk. The limb being much shortened, she was, at first, obliged to use a high-heeled shoe, but is now able to walk as well as ever, with a flat shoe, like the other, without pain, or any apparent lameness.

The present situation of the piece of bone is $4\frac{1}{2}$ inches from its lower edge to the bottom of the heel; and a tape passed round the middle of it, over the two ancle bones, measures exactly eleven inches. The heel has now a sound and natural appearance, and feels like a soft cushion; the space which the fractured portion of bone formerly occupied being filled up with cellular substance. The new integument over the bone is thin and tender, and defended by a dyachylon plaister, to prevent excoriation. When the nature of this accident was first reported in conversation, it was not believed by any one to have been correct, but several medical gentlemen soon satisfied themselves of the fact, by their own examination. Some eminent surgeons at a distance, have assured me, that no such case has occurred in their own extensive experience, and that they have never met with a similar one any where upon record. GEO. CUSTANCE.

Kidderminster, Feb. 14, 1829.

ARTICLE IX.

Case of STRANGULATED HERNIA.

(BY THE SAME.)

THE operation for strangulated hernia, when performed sufficiently early, is most commonly successful, and is of such frequent occurrence, as to render its recital uninteresting and needless. But the following case is worthy of notice, as exhibiting the cause which probably made the operation ultimately inefficient.

J. P. aged 36, had been a soldier, and was wounded on the left hip, by a musket ball, at Bergen-op-zoom. The ball was never extracted, nor could its situation be ever ascertained. The poor man suffered much and long from various abscesses, and exfoliations of bone. At length the wounds healed, and he was discharged with a pension. On his return to Kidderminster, he worked in a carpet loom, and being addicted to drinking, suffered repeatedly from a strangulated scrotal hernia, which had, with difficulty, been as often reduced. Unfortunately, he could never be prevailed on to wear a truss. Some time in Sept. 1826, the hernia again became strangulated and irreducible, after the usual means, by bleeding, &c. had been unremittingly employed. After a consultation with three of my medical friends, I performed the necessary operation. The portion of the strangulated intestine appeared quite free from gangrene, and even from any sphacelated spots, and was returned with part of the omentum, without any difficulty. A small portion of the omen-

tum was removed, and every artery secured. From his bad habit of body, however, considerable inflammation of the surrounding parts ensued, extending to the left testicle, which, suppurating, was totally destroyed. A great sloughing of the integuments took place, followed by a small opening of the intestine, through which fœculent matter passed for some weeks, notwithstanding he had solid stools almost daily, per anum. Healthy granulations arose, and in about two months, the whole wound was apparently closed. But unfortunately, inflammation in the neighbourhood took place, followed by suppuration, and a fresh opening of the intestine, from which a piece of the fractured ilium, and a few days after, a round stone, as large as a grape, was extracted. The poor man then informed us that the French were in the habit of loading their muskets with small stones, as well as with ball. The intestine gradually closed, and again opened from time to time; and various abscesses and sinuses, (occasioned, no doubt, by the gun shot wound) exceedingly reduced him. He at length, however, recovered his flesh and strength, notwithstanding a discharge of pus continued from a deep sinus at the top of the thigh. A very small fistulous opening remained in the intestine, although the fœces were discharged almost daily in the natural way. Thus it went on for two years and a half, from the day of the operation, till his death, which took place suddenly in the night of the sixth instant, of which I was not apprised in time to obtain permission to examine the parts, post mortem; nor could I ascertain a very satisfactory account of the immediate cause of his decease. From an impartial review of this case, there will be probably no doubt entertained, that the full success of the operation was defeated by the injury which the poor fellow received in the service of his king and country.

Kidderminster, Feb. 14, 1829. G. C.

ARTICLE X.

A Letter from Mr. Custance to Doctor Hastings.

Dear Sir,—Not having the pleasure of being personally known to you, I must apologize for addressing you on the present occasion, instead of transmitting the following case to the Editor of the Midland Reporter. But the truth is, that having recently sent him two rather singular cases in surgery, I am fearful of being suspected of a tendency to the *marvellous*, in communicating the following most extraordinary, and I doubt not, unparalleled fact. I have, however, no doubt of obtaining *your* implicit confidence in my integrity; yet it is a satisfaction to my own mind, that I have the testimony of two of my medical friends, Mr. Dixon and Mr. Jotham, who kindly assisted me; and also of Mr. Snow, who entered my surgery just as we had concluded the operation.

On Monday evening, the 17th instant, William Haynes, a day labourer, aged 50, came to my surgery, and informed me that he

had been at work in the afternoon, in a field at Broadwaters, and having a call of nature, he sat down to ease himself, when the cramp seized his legs, and he fell upon the bottom of an *inverted* blacking pot, which was lying amongst some rubbish and manure, and that the *whole pot* was thrust up into his fundament. On examining the anus externally, I found the rectum a little protruding and swolen. On first introducing my fore finger, I could feel nothing of the kind, and thought the poor man had deceived himself; but passing my finger its whole length up the gut, I reached the inside of the *bottom* of the pot, and then, on a more minute examination, found that the whole of it was actually there, with the circular edge of its mouth behind the foldings of the rectum, an inch, at least, beyond the sphincter. Having made many efforts to extract it in vain, I requested the assistance of my friends already mentioned. Every exertion for an hour and a half, with different forceps, and by a gradual dilation of the sphincter, proving unavailing, owing to the convexity of the pot, and to its lower circular edge being entangled, we began to despair of success. The only chance that at length presented itself, was to break the pot into fragments to destroy its rotundity. This was accomplished in the following manner, after many other expedients had failed. I introduced the small end of an iron pestle, and held it firmly against the bottom of the pot, whilst one of my friends struck the other end of the pestle forcibly with a flat iron, two pound weight. This mode, at the second blow, succeeded in breaking the pot into several pieces, the three largest of which I have sent for your inspection. The whole was extracted, piece by piece, with the forceps, or with our fingers. The operation occupied at least two hours; at the end of which, the poor fellow was much exhausted, partly with the torture he underwent, and partly by the loss of blood. The sphincter was not lacerated, but doubtless, the rectum itself was much injured, by the sharp and broken edges of the fragments of the pot. He afterwards walked, with assistance, about a mile, to his own house. I saw him the next morning about ten o'clock, and found him, as might be expected, labouring under extensive intestinal inflammation. He was vomiting incessantly; his pains were excruciating through the whole abdomen; his pulse was 120, and very full. I immediately took, from a large orifice, between 40 and 50 ounces of blood, which reduced the pulse, and brought on faintness and clammy sweat, though not complete syncope. The blood was deeply buffed and cupped. I gave him five grains of calomel, and two of opium, and left my senior pupil with him, with directions to take away more blood at the end of two hours, if the pain and pulse should require it. This bleeding was repeated to about xij or xiv ounces. Mr. Jotham saw him with me, at four in the afternoon, when the sickness had ceased, but he was still in great pain, especially on pressure. He said he felt none whatever at the fundament. The pulse was very quick, and too feeble to warrant any further general bleed-

ing. We therefore applied twently leeches to the abdomen, which operated well. He continued in great pain till nine o'clock at night, when he expired.

He was previously in good health, a very sober man, and regular in all his habits. He passed no stool, and we did not give any glyster, apprehending that any thing sufficiently stimulating, would only irritate the rectum, which must have been greatly injured, and thereby increase the mischief. Perhaps you will think it expedient to publish this unfortunate case, in the Midland Reporter, not only on account of its singularity, but to inform the Profession of the manner how we broke the pot in pieces, and extracted so extraordinary a substance, which had entered the rectum in so singular a manner. I am sorry to add, that we could, by no entreaties, obtain permission to open the the body after death. I remain, dear Sir,

Your's respectfully,

GEO. CUSTANCE, Surgeon.

Kidderminster, March 20, 1829.

P. S.—I have also sent you a whole pot, of the same sort and size as the one that proved so fatal, that you may judge the more accurately of this strange and melancholy accident.*

ARTICLE XI.

A Singular Case of ISCHURIA.

BY CHARLES HASTINGS, M. D., WORCESTER.

ON the 9th of April, 1814, M. H. aged 23, was admitted an in-patient of the Worcester Infirmary. She represented herself as having been particularly healthy. Within the last week she had been exposed to cold, whilst the catamenia were flowing abundantly. For the first day or two, she only appeared to suffer from feverish symptoms. Soon afterwards, however, the secretion of urine became very deficient, and she had difficulty in passing it.

On the evening of her admission she became much worse, and complained especially of pain aud tenderness over the whole of the lower part of the abdomen, and in the loins. There was vomiting, and a disposition to convulsion. The lower part of the abdomen was much distended. The catheter was introduced, and ten ounces of urine were drawn off; after which the pain was relieved. She was ordered to take a scruple of cathartic extract immediately; and one drachm of sulphate of magnesia, dissolved in camphor mixture, three times a day.

The next morning the bowels had not been moved. She was afflicted with severe head-ache, as well as the abdominal pains. She had passed no water, and was delirious during the night.

She was cupped on the back, and had a blister applied, and took cathartic mixture every four hours till the bowels moved freely; after which she went into a warm bath.

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* I have measured the unbroken pot sent by Mr. Custance. Its depth is $2\frac{1}{8}$ inches. The diameter of its circular brim, is $2\frac{3}{8}$ inches. The diameter of its circular base, is $1\frac{1}{2}$ inch. C. H.

The symptoms remained for several days very much in the same state. Delirium usually came on during the night. No urine was passed by the natural effort, but about three ounces were drawn off by the catheter, in the course of 24 hours. She very frequently vomited, and suffered much from pain, tenderness and tension of the lower part of the abdomen. On the evening of the 17th, insensibility came on, for which a blister was applied to the back of the neck. The pulse was 60. An active aperient was given. On the 19th, no improvement had taken place, for the vomiting was incessant, and the pain in the abdomen and back was more severe. Pulse 80. She was bled three days in succession, with some alleviation of the pain, but the abdomen became generally enlarged and very tender. There also ceased to be any urine drawn from the bladder by the catheter. This continued to be the case for five days. The bowels were open. She took saline diuretics without avail.

On the 25th, there was much vomiting, pain, and distention of the abdomen, but she passed a little urine. Pulse 80. She was bled to eight ounces.

On the 27th, a bloody discharge appeared at the umbilicus, after which, the abdominal pain and tension were relieved. She also passed some urine by the urethra. The vomiting was, however, worse than it had previously been.

The bloody discharge from the umbilicus, and the other symptoms, continued very much the same till the second of May, when there was a discharge of a urinous appearance and smell, from the umbilicus. She had passed no urine by the urethra for three days. The head was very painful; the pupils dilated; pulse 56; bowels costive. Some leeches were applied to the temples, and a blister to the back of the neck. A brisk purge was administered. The catheter was introduced, but no urine found in the bladder.

This discharge of urine from the umbilicus, continued till the 5th, when the catamenia appeared, but quickly vanished. The abdomen became less tense and tender. There was not so much vomiting. The bowels were open.

From the 7th to the 9th, there was no discharge of urine from the umbilicus, nor was there any passed by the urethra. As a consequence, the abdomen became much distended, and severe pain followed, with vomiting. The tension was most remarkable at the umbilicus, forming a circumscribed tumour.

On the 10th, in the morning, six ounces of urine were drawn off by the catheter; and in an hour after, two quarts of urine, of the same appearance, gushed from the umbilicus. This was followed by much relief of the abdominal pains. The discharge of urine from the umbilicus, continued for three days, and was accompanied with great improvement of the general symptoms.

The amendment, however, did not last, for the discharge from the umbilicus again ceased, and for three days, the vomiting, the head-ache, the abdominal tension and pain, returned with their former severity.

On the 17th, the catheter was introduced into the bladder, and no urine was found. In an hour after this, two quarts of urine passed from the umbilicus, and soon afterwards great relief was experienced.

From this time to the 25th, there was little variation, but the young woman suffered during that interval very much from vomiting, and daily passed urine from the umbilicus. The catheter was passed every day, and no urine was found, but the bladder contracted strongly on the instrument; sometimes, immediately after the catheter was removed, a discharge of urine would take place by the umbilicus, and once, as much as three quarts were thus passed.

On the 26th, for the first time after many days, four ounces of urine were drawn from the bladder. Each succeeding day, this quantity was now increased, and the quantity passed by the umbilicus, was diminished. There was also a general improvement of the symptoms, with the exception of vomiting. This continued obstinate. All this time, the medicine that she took was confined chiefly to the class of purgatives. Blisters were also applied to the neck and epigastrium.

The bladder was regularly emptied every day by the catheter, for more than a month after this date, during which time, the abdominal pain and vomiting subsided, and there was no discharge from the umbilicus. Early in July, she began to pass some urine, and the power over the bladder was gradually restored. She was discharged in the middle of July, in tolerable health, but still often complained of pain in the pelvic region. She menstruated.

Observations.—This curious case of Ischuria, is well worthy of consideration. The remarkable sympathy observable between the brain, the stomach, and kidnies, is common to all cases of this description, and is so obvious, as not to require any further comment.

The very remarkable feature in the case, is the occurrence of the urinary discharge from the umbilicus, many days after the ischuria had been noticed. Such instances, although rare, are not without parallel in the annals of medicine. Schenck relates two instances of this kind. In the one, a male, the urine was discharged in consequence of an obstruction at the neck of the bladder, "tanquam mictione ex umbilico" for many months, without any detriment to health. In the other, a female, and more resembling the one now related; "cùm suppressa per multas dies fuisset urina, tandem per umbilicum urinam profudit.'—Schenck Obs. Lib. iij. de Urina. p. 489.

The interesting question is to determine in what manner the urine is conveyed to the umbilicus in these instances. The urachus offers itself as a mean by which the discharge may be determined to that part, and it seems probable, that in the case of mechanical obstruction related by Schenck, at the neck of the bladder, that a channel of communication was formed by the urachus, between the bladder and the umbilicus. But in the case we now remark upon, there had been no urine secreted into the bladder, long before its appearance at the umbilicus, nor was there for some time after. And the first discharge from the umbilicus, was not of an urinary, but bloody nature. We must, consequently, I think, regard the urinary discharge, in this instance, as vicarious, and as proceeding, probably, from the peritoneal surface. This view seems confirmed, by the great abdominal distension which took place for some time previous to the discharge from the umbilicus, when it was invariably found, from introducing the catheter, that the bladder was empty, and that it contracted on the instrument.

Some cases of this description, have been placed upon record by eminent men worthy of great credit. There is none, perhaps, more deserving of attention, than that by Platerus, which is thus related by the renowned Sennertus. "Puellæ cuidam annos natæ tredecim, cùm aliquando copiosè minxisset, urinam subito suppressam esse, atque tunc aquam serosam ex aure dextra adeo affatim cœpisset effluere, ut una vice mensuræ duæ sœpe emanarint, idque dies aliquot." He then adds, that on diuretics being administered, the urine was passed freely

from the bladder, and the discharge from the ear ceased; but as soon as the diuretics were discontinued, the discharge again took place from the ear, but was altogether removed by general terebinthinate remedies, and local repellents to the ear. The health did not suffer.—Sennerti Opera, Lib. iij. p. viij. s. ij. cap. 9.

In our case, it was evident that much inflammatory action was going on in the pelvic viscera, previous to, and during the discharge of, urine from the umbilicus; and there was a considerable sympathy of the general health, with the local inflammatory action.

I may further add, as a notice to this case, that the young woman was again admitted into the Infirmary, in May, 1827, for paralysis of the lower extremities, from which she recovered by appropriate remedies. The urine, for a time, was drawn off by the catheter, but there was no return of the former disease.

ARTICLE XII.

Case of Apoplexy, occurring at the full period of Uterogestation.

BY MR. G. JONES, ALCESTER,

Member of the Royal College of Surgeons, London.

Mrs. B. æt. 42, very lusty in person, with an exceedingly short neck, and of a full phlethoric habit, became pregnant for the first time. Up to this period, she had enjoyed uninterrupted good health, and continued to do so to the seventh month of her pregnancy, when an alarming hæmorrhage from the uterus suddenly occurred; its suppression, however, by the means commonly resorted to, did not, at that time, warrant any further interference. The antiphlogistic treatment, with the recumbent posture, was strictly enjoined; the hæmorrhage, nevertheless, returned three several times in the two succeeding months, in considerable quantity, with slight passive hæmorrhage in the intervals. Such untoward symptoms manifestly indicated an attachment of the placenta over the os uteri, and a distance of three miles from my patient, made me very apprehensive for the result. More than forty weeks had elapsed from the time of conception, and I was hourly expecting a summons to my patient, when, on the evening of the 11th of August, a hasty messenger desired me to make all possible speed to her residence. But a short time sufficed to bring me to her bed side. She lay in a comatose state, with stertorous breathing, and deprived of sense and voluntary motion. Pupils much dilated; pulse 60. I was informed that she had eaten heartily of hung beef and other indigestible food, and retired to bed, when she was seized with violent vomiting, which was quickly followed by insensibility.

From this statement, and from her symptoms collectively, it was evident that she was labouring under an alarming apoplexy. I directly opened a vein in the arm, from the smallness of which, however, no satisfactory current of blood could be obtained; an opening was then made in the jugular vein. With some diffi-

culty, about twenty ounces of thick grumous blood were taken away, but without the least mitigation of symptoms. The quantity of blood, though apparently small, was deemed sufficient, as it was impossible to calculate, with any degree of certainty, upon the loss which might be sustained in the subsequent management of the case. It was now thought expedient, in conjunction with the opinion of my father, to deliver my patient without delay, in the hope that a favourable change might be effected, by removing the pressure of the gravid uterus from the descending aorta.

Hitherto there had been no uterine action.

On introducing my hand into the vagina, I found that the os uteri would only admit one finger; this at once confirmed my prognosis of malposition of the placenta. Twenty minutes or half an hour was occupied in the process of dilatation, so as to admit the hand, by the side of the placenta, into the cavity of the uterus. Owing to the superior aperture of the pelvis being more circumscribed than usual, I experienced considerable difficulty in bringing down the feet, and still greater in extricating the head, which could only be accomplished with the assistance of the forceps. Upwards of an hour was occupied in the delivery, during the whole of which time, no disposition to uterine action was evinced, unless the resistance to the introduction of the hand, in the first instance, could be so called.

The pressure upon the funis, during the transit of the child through the pelvis, as well as the length of time the head was impacted in the superior aperture, disappointed my hopes of preserving the life of the child. The subsequent introduction of the hand into the uterus, and all other means, were alike ineffectual to excite contraction of that organ. My patient remained insensible during every stage of the operation, in which about a pound of blood might have been lost. She continued to sink, and in an hour from the evacuation of the contents of the uterus, breathed her last.

It is much to be regretted, that leave could not be obtained to open the head.

The most remarkable feature of the case, appears to consist in the existence of apoplexy, under circumstances which are usually considered the surest preventatives; viz. a constant and sanguineous discharge from the uterus, the operation of saline purgatives, and the observance of a spare meagre diet, until the fatal night in question.

It may be worthy of remark, that my patient never drank any thing but water at her meals.

ARTICLE XIII.

Observations upon the Use of the Ergot of Rye.

BY MR. DAVIS, SURGEON, &c. PERSHORE.

Few Medicines have obtained so high a degree of celebrity, in so short a space of time, as the Ergot of Rye; few have so completely possessed the confidence of the practitioner; and no medicine that has ever been introduced, appears to me to be so much calculated to maintain the important situation in which it is at present placed. Solitary cases are of trifling importance; the utility of a medicine can only be ascertained by its frequent administration; consequently, the greater the number of well authenticated cases which are brought forward to support its claims, the more it deserves to be valued. The Ergot has been given in a great number of cases which are recorded in different medical journals. It has many very strong claims to our attention; its powers are "sui generis," and really wonderful. Under favourable circumstances, it will bring on and end a labor in an hour, which might have gone on for days, thus saving the practitioner much harassing anxiety, as well as rescuing the most amiable and interesting portion of our species from much mental distress, and acute and unnecessary suffering, and, in all human probability, in many instances, from an untimely grave. I beg you to understand, that I do not by any means recommend its administration upon all occasions; far from it. I think it requires the greatest caution, and that it is likely to do incalculable mischief and irreparable injury, when injudiciously given.

1.—It ought rarely to be given in first cases.

2.—It ought not to be given if the pelvis be not capacious.

3.—It ought not to be given unless the parts be well dilated.

4.—It ought chiefly to be given in cases where the labor is unusually tedious, in consequence of want of action in the uterus.

5.—In many cases of hæmorrhage during parturition, and in retention of the placenta.

If the parts be properly dilated and lubricated, and if the uterus be acting feebly and inefficiently, one dose of ergot will, I am fully persuaded, in nine cases out of ten, end the labor satisfactorily within an hour. It would be highly improper to give it in cases of impaction; in any presentation, excepting a natural one, or where there is a want of proper proportion between the child's head and the pelvis of the mother; or where there exists any rigid contraction of the soft parts.

CASE I.

January 27, 1826.—I was sent for about 6 o'clock in the evening, about three miles from home, to an unmarried female; first child. Waters broke the evening before. Pains very feeble, and far between; the friends were very anxious, and would not permit me to return home. 28th.—Much as yesterday; the os uteri dilating very gradually. 29th.—Head slowly descending into the cavity of the pelvis. 30th.—Parts well dilated and lubricated; head completely in the pelvis. I had never given the ergot; I thought this, *though a first child*, a fair case for the trial of its powers. At 6, a. m., I gave her ten grains in powder; I fancied the pains were more frequent, but not much in-

creased in strength. At 9, I gave her a scruple in a cup of tea; in sixteen minutes, the pains came on very strongly, and she had scarcely a second's rest until half past 10, when the child was born; the placenta immediately followed; hæmorrhage moderate; mother and child did well.

CASE II.

February 25, 1826.—At 2, a. m., I was sent for to Mrs. S. five miles in the country; fourth child. The pains were pretty strong, and at regular intervals, returning in a few minutes. I was in hopes all would have been soon over; however the pains gradually died away. At 11, the parts being fully dilated and well lubricated, head in the pelvis, I gave her a scruple of ergot. In twelve minutes, the pain returned powerfully, and lasted until the child was born; placenta soon followed. Mother and child did well. She has had one since without difficulty.

CASE III.

April 13, 1826.—I was requested to attend Mrs. P. six miles from home; seventh child. I saw her at 10, p. m. Pains very weak and long between. I waited until 7 next morning, before I gave her the ergot; she would not take the powder. I infused i ss. drachms in iv. ounces of boiling water; she took the whole of the infusion; the pains came on immediately, and the child was born in a very few minutes; the placenta followed: hæmorrhage moderate; mother and child did well. She has been confined since without difficulty.

CASE IV.

October 5, 1827.—At 8. a. m., I was called to Mrs. H.; fifth child. Pains remarkably strong, and very long; the head descended rapidly into the pelvis; one pain more would have brought the child into the world; they stopped suddenly. She fell asleep, and slept nearly five hours; no signs of pain. I gave her a scruple of ergot; the pains came on strongly; the child was immediately born, the placenta came with it; the pain continued for full ten minutes after, unabated. I gave her 60 drops of Tr. opii. which relieved her. Mother and child did well.

CASE V.

May 22, 1828.—At 2, a. m., I was sent for to Mrs. W.; first child. Pains weak; long rest between. By 1, p. m., there was but very little alteration; the child's head had, it is true, been gradually descending, but it was very slowly; the pains increased in frequency, but not at all in strength, remaining on but a very few seconds; by 3, the head was in the pelvis; the membranes were still entire, and the parts were not so well dilated as I could have wished. At 4 I gave a scruple of ergot; the pains increased in strength, and at 5 the child was born; the placenta soon followed; the hæmorrhage was very considerable. She went on very well for the first three days; on the fourth day she had a shivering fit, with a good deal of pain in the left iliac region; pulse weak and frequent, about 100; she had twenty leeches to the part affected, and took effervescing medicine, with calomel and opium. Rather better the following day; still pain on pressure; 20 more leeches were applied, and she continued her medicine. She daily got better and was soon well.

CASE VI.

About 7, immediately on my return from Mrs. W. I was requested to go to Mrs. —, who had been very ill all day; first child. The pains were very

strong, and the child's head was entering the pelvis I congratulated myself on its being likely to be over soon. I was most egregiously mistaken; the pains continued exceedingly strong, but not bearing down during the whole of the night, with scarcely half a minute between. They were severe in the extreme; I never saw a woman suffer half so much pain in my life. She tossed herself about the bed, and put herself into all manner of attitudes, but to no purpose; the pain was most excruciating, and appeared to be, if possible, increasing, and without one second's interval. Her screams were truly distressing. At 5 I gave her 80 drops of tinct. opii.; I repeated it in ten minutes; she was rather easier for about half an hour. I then gave her 80 drops more, as the pain appeared to return; she slept, or rather dosed, for nearly an hour, when she started up and screamed as loudly as ever, and said the pain was ten times worse. I was puzzled what to do. I was afraid of giving her more opium.

It appeared to me to be a case of irregular contraction of the uterus, that is, of contraction of the transverse fibres of that organ, without the assistance of the longitudinal fibres, for the head did not move, although it was almost in the pelvis; the os uteri was well dilated, and there was a proper secretion of mucus, but still things seemed to remain "in statu quo." After considerable hesitation, I ventured to give a scruple of ergot; I had the *pleasure* of observing, in half an hour, that the character of the pains had materially altered, and in an hour and a quarter, a dead child was born. The woman did well. In a few days she had a slight attack of fever, which soon subsided.*

ARTICLE XIV.

Case on the Ergot of Rye.

BY GEORGE WALDRON, ESQ. SURGEON, BATH.

The following, so far as a solitary case goes, satisfactorily evinces the powerful efficacy of the Ergot of Rye, in difficult and tedious parturition.

November 13, 1828, I was called to attend Mrs. P. in her delivery. The waters broke early in the morning, and there was an entire cessation from pain, excepting at long intervals, when only a slight action of the uterus was felt. She remained in this state till twelve o'clock at noon, when I saw her, and having attended her in a former tedious and difficult labour, in which the forceps were required for her delivery, I determined to remain with her till her labour was accomplished. Upon examination, the head of the child was high up, and impacted closely within the pelvis, and the os uteri considerably dilated and flaccid; the water kept constantly draining away. Her situation and progress of labour precisely resembled her former case; I considered this an excellent opportunity of making trial of the Ergot of Rye; half a drachm of the Ergot

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* *Note by the Editors.*—The Editors cannot but be pleased at the zeal with which Mr. Davis has brought to the test of his experience, the powers of the Ergot of Rye; and they sincerely hope that that zeal will not lead him to a premature exhibition of the remedy, or bias his judgment in estimating its virtues, particularly as, like other vegetable products, the power of different specimens is so liable to variation.

was bruised, and infused in four ounces of boiling water, and allowed to stand two hours; at four o'clock I strained it off, and while warm, gave it to my patient, whose pains were still languid, though more frequent; within twenty minutes of her taking the infusion, a very considerable increase of forcing and pain was experienced, and which never left her till the child was safely delivered, and which took place at twenty minutes before 6 o'clock, during the action of the Ergot of Rye. Mrs. P. expressed herself much aided by it, and did not complain so much of pain as an irresistible forcing, which was certainly greater than I ever before experienced in my attendance at the delivery of between 6 and 700 children, and my mind is fully impressed with a conviction, that had not the Ergot been given, the delivery, in the present instance, would not have been effected without mechanical aid.

ARTICLE XV.

General Report and Cases of the Kidderminster Dispensary.

ALTHOUGH we are not, by any means, particularly subject to fevers, yet, at the beginning of last October, disease among the poorer classes began to assume a certain type, as if all were modified by some general influence. At the beginning, the febrile affection was frequently ushered in by a diarrhœa, or gastro-enteritic affection, and though slightly remittent in some instances, yet its character was such as could not wholly be attributed to the season of the year. After some time, the absence of local symptoms formed a remarkable feature in the complaint, which assumed an asthenic character from the beginning, and in fatal cases, death did not seem to take place from injury done to the contents of important cavities, but rather from the want of vital energy. There was nothing of putridity, nor were the head symptoms in general, well marked; nor are we to expect any very decided features in a complaint mostly chronic and subacute. Blistering and leeches were made use of against the local symptoms, nor was there any thing to tempt to the use of the lancet. Camphor was always used with great benefit, and stimulants and tonics were resorted to early in the complaint.

The deaths, according to my observations, are about one in ten, and I have had no opportunity of dissection.

I cannot help attributing this complaint to the influence of the privations that were experienced by the labouring classes during the time that they were unemployed. It is remarkable that I have not met with such a putrid tendency as there was last year, when there was nothing endemical in the fever, although the cases are now more numerous.

Perhaps it is worth while to mention the following case, which would encourage one to hope even in apparently desperate circumstances. A woman, of 60 years of age, applied to me, being afflicted with neuralgia, affecting both the seventh and fifth nerves on the right side of the face, where she traced the branches with accuracy by the point of the finger. She had been troubled for

twenty-seven years, with occasional remissions only, and during that period had been leeched, blistered, and had taken much medicine, of which I could not ascertain the nature, though I imagined that she had never undergone a complete course of tonics. Above all, she told me that about twelve years ago, a surgeon in Stafford drew seven teeth for her, without, however, removing the tooth-ache, which he assured her he should do. The poor woman, although she had suffered so long, was not at all able to bear with the pain, and as she was almost a stranger to sleep, I gave her a pill of opium with aloes at night, whilst at the same time, she took the carbonate of iron, beginning with five grains, and increasing the dose to ten grains, three times in the day. By degrees, she came to experience great relief, so that after six weeks, she discontinued her attendance. Since then, I met her, and she told me that she felt nothing but a stiffness in the cheek. I am inclined to think this relief was attributable to the medicines, because, when I saw her, the disorder was violent, and not like one gradually wearing itself out: and the remissions formerly were slight, and never approached to a total intermission like the present. It is now three months since I saw her, when she said, however, that in case of a relapse, I should see her again.

Perhaps the following cases are worth relating, as they occurred at nearly the same time.

Sarah Ashcroft, 36 years of age, married, applied on the 18th of July, 1828, giving the following account. Several times in the day, she is seized with a fit of dyspnœa, during which she is wholly unable to make an inspiration, though all the muscles connected with respiration are thrown into a violent spasmodic action, and the fit closes in about forty or fifty seconds, with a deep sigh. The fit is preceded by a pain reaching from the left elbow up the arm, and across the chest, and produces a sense of constriction, and is attended with an insuperable desire for air, which, however, gives no relief. When I saw the patient, the countenance was deep red, and the lips were blue during the paroxysm, and afterwards she became pale, and covered with slight perspiration. The fits occasionally recur, with short intervals, for a whole day. All this has continued for three years, and its origin is attributed by the invalid, to cold and over exertion, bringing on a suppression of the catamenia. She was never pregnant, but always enjoyed good health, and was accustomed to very hard work of an agricultural nature.

During the existence of the paroxysm, the pulse is not perceptible; at other times it shows nothing remarkable, and the stethoscope discovers nothing, if we except a doubtful rasping noise in the left submammary region, close to the sternum. Ordered to take a draught, containing two drops of prussic acid, three times a day; and if the paroxosms succeeded each other for a length of time, to repeat every two hours until they stop, or giddiness ensues. This was practised for the space of a month, with great amendment of the spasms, although she suffered much from

the effects of the acid, which also did not stop the fits at first, until the head was very severely affected. At length, one or two doses controlled the paroxysms. On the 1st of September, she had been free from spasms a fortnight, and the medicine was discontinued.

On the 22nd, however, the report is, that the fit returned two days previously, after violent exertions in lifting and carrying, and had occasionally troubled her so, that the draught was repeated as before. On the 14th of October, she was discharged, reporting that she had a slight fit only, ten days before.

Early in December, she again appeared, with the old chest symptoms, joined with ascitic appearances, all which she attributed to cold; first, she was relieved of the dropsy by hydragogue cathartics, and then the acid being made use of, she recovered in a few days, and has not since been affected in any way.

Jane Maylett, æt. 48, a widow, acting as laundress. October 3, 1828. Has been for twelve months subject to fits of dyspnœa, coming on with sense of suffocation, and dread of death, and preceded by a pain proceeding from the little finger of the left hand, up the arm, and across the chest, which is affected with a feeling of great constriction, whilst an unconquerable desire for air is felt, but its indulgence gives no relief. In the paroxysm, the face is pallid, and the lips white. She has worked hard, and suffered much mental anxiety, to which circumstance she attributes her complaint. The stethoscope gives no indication. At the time, the patient laboured under indigestion, the stomach being morbidly sensible, and the functions of the liver deranged; but in ten days, after blue pill, hyoscyamus, and ipecacuanha, with a cathartic mixture occasionally, had been used, she was tolerably free from dyspepsia, although the fits were not in any manner changed. These consist of several paroxysms succeeding each other, and continuing to do so sometimes for an hour, and once for four hours together. Generally they occur two or three times in the day. She was ordered to take half an ounce of the following every half hour whilst the disorder affected her. ℞ Acidi Hydrocyanici ♏ xx. T. Cardamomi ʒ ij. Aq. Menth pip. Oss. misce.

Nov. 20.—The fits have been uniformly relieved, but not stopped, by the mixture. 27th.—Has had no fits since the 22nd, when the spasms endured for two hours, with the usual intermissions, during which, she took five doses of the medicine, which brought on head-ache and vertigo to a severe extent; and since that period, she has been hardly able to stand. Reports that she has several times fallen down since she took the medicine. Ordered some æther in peppermint water, and to omit the acid.

Dec. 4.—Head better; no return of spasms. ℞ Sp. vol. arom. ʒ i. ex aquâ, ter in dies. The health is now better than it has been for some time, and no chest symptoms have returned.

These two cases shew that the prussic acid has power over this convulsive disorder, which I imagine may be called Angina

Pectoris. It is worthy of remark, that the medicine did not afford much relief, until carried to an almost alarming extent. If we suppose that there was organic disease, here we have an instance of the *habit* of disorder, in the sympathising structures of respiration, being broken through by the intervention of a *third circumstance*, whilst the original cause is not supposed to be removed, (if any such existed in the heart,) and this I think a circumstance of great importance to patients labouring under organic complaints, because it must stimulate the physician to exert his abilities in palliating that which he cannot cure, a troublesome task certainly, but too often neglected. I see no reason why, in many cases, the *habit* of a *sympathy* may not be destroyed by medicine, when the *structural injury* is confined only to *one* of the parts implicated.

I do not think it necessary to take up room by any description of the economy of our Dispensary. It is handsomely supported by voluntary contributions, though the number of tickets is by no means equal to the demand for them.

There is one physician, and there are three surgeons, besides which, we have a resident apothecary. The latter is bound under a penalty of two thousand pounds, never to practice, now or hereafter, in the town, or within two miles of it, in order that the apothecaries of the town may not be injured by his competition.

Statement of Patients admitted between the 31st of July and the 30th of December, 1828.

	Admitted.	Males.	Females.	From Town.	From Country.	Medical.	Surgical.	Cured & Relieved.	Died.	Event Unknown.
August,.....	83	41	42	69	14	66	17	75	2	6
September,...	84	30	54	73	11	70	14	79	1	5
October,.....	98	44	54	78	20	83	15	91	1	6
November,...	86	39	47	79	7	72	14	75	6	4
December,...	95	39	56	82	13	82	13	28	3	64
Casualties,...	25									
Total, ...	471	193	253	381	75	373	73	348	13	85

ARTICLE XVI.

Worcester Infirmary.

The number of patients treated in the Worcester General Infirmary, from the 1st of July, 1828, to January 1st, 1829, (exclusive of those previously on the books,) amounted to 570; of these, 292 were medical, 278 surgical cases. Males, 359; females, 211. In-patients, 303; out-patients, 267.

General results.—Cured, 345; relieved, 55; discharged at their own request, 4; for irregularity, 28; dead, 21. Remaining on the books January 1st, 1829, 117.

Diseases.—Abscess, common, 12; lumbar, 1; psoas, 2—asthma, 5—amenorrhea, 9—anomalous, 29—anthrax, 2—bronchocele, 5—bubo, 2—burn, 1—cephalagia, 16—concussion of brain, 2—contusion, 19—chorea, 1—colica pictorum, 3—cutaneous eruptions, 18—cynanche tonsillaris, 4—diarrhea, 5—dislocation, simple, 4—dropsy of abdomen, 3; general, 7; thorax, 3—tunica vaginalis, 2—dyspepsia, 24—eye, diseases of, 13—fever, continued, 12; intermittent, 2—fracture simple, of extremities, 23; ribs, 1; compound, of extremities, 7; cranium, 2; jaw, 2—gonorrhœa, 2—hæmorrhage from lungs, 2; bowels, 2; nose, 1—heart, organic diseases of, 5—hæmorrhoids, 4—hernia, 34—inflammation of bladder, 1; brain, 2; bronchi, 13; intestines, 7; liver, 6; lungs, 21; pericardium, 1; pleura, 14; stomach, 1—jaundice, 1—joints, diseased, 25—leucorrhea, 8—liver diseased, 16—ovarium, diseases of, 2—paralysis, 5—phthisis pulmonalis, 7—polypus nasi, 1—pyrosis, 1—rheumatism, acute, 7; chronic, 30—scald, 4—schirrous cancer, 2—scrofula, 3—spine, diseases of, 6—stricture of œsophagus, 1; urethra, 2—syphilis, 4—testes, diseased, 2—tabes mesenterin. 2—tumour, 6—ulcers, 45—varicose veins, 4—wounds, 22.

ARTICLE XVII.

Self-Supporting Dispensaries.

In our last number, we called the attention of the readers of this Journal, to a very important improvement in the means of affording medical relief to the sick poor, which seems likely to be effected, by the establishment of Self-supporting Dispensaries. So important, indeed, do we consider this system, to the interests of the medical profession and the public, that we shall lose no opportunity of pressing its consideration on those who have power and inclination to give it a fair trial.

Since we last applied ourselves to this subject, we are happy to state that the Governors of the Worcester Dispensary have, after mature deliberation, come to the determination of engrafting a Self-supporting Dispensary upon the old establishment, so as neither to become a source of expense to the latter, nor to interfere with any rights or privileges its governors before enjoyed. We entertain much hope of the success of this endeavour to extend the advantages of the original charity. It will call upon the labouring classes to insure against sickness, and thus practically impress on their minds the great value of self-dependence. Wherever the plan has hitherto been tried, it has succeeded, and there has been no reluctance on the part of the poor to embrace its advantages.

The first report of an Institution of this nature established in Birmingham, lies before us, and it shews most satisfactorily, that the system of Self-supporting Dispensaries is applicable to districts however populous.

It appears that 506 cases have been attended during the past year. The receipts amount to £125. 2s. 6d. The disbursements to £122. 11s. 10d. Of this latter sum, nearly two-thirds, viz. £79. 13s. 4d. has been paid to the medical officers for attendance. Not only then does this report prove that there is in the operative classes a spirit of independence, which it is the great aim of Mr. Smith's system to call forth and encourage; but it also shews that the remuneration afforded by this mode of insurance against sickness, to the medical attendant, is by no means inconsiderable.

The first report of the Atherstone Self-supporting Dispensary is equally favourable, and justifies the most sanguine expectations of the future success of the Institution. It appears that 765 cases have received advice and medicine, and yet a balance exceeding £80 remained to be divided amongst the medical gentlemen of the establishment.

The above facts are deserving of mature consideration, from every reflecting member of our profession, as, at any rate, they clearly evince that the experiment of a Self-supporting Dispensary may be tried without hazard. We may further observe, that it has been well said by the Bishop of St. David's, that benevolence should be reduced to a science; and truly, if the effect of the benevolent exertions now making in behalf of district Dispensaries, shall be to impress on the minds of the free members of them, the value of good character, the importance of systematic and periodical savings, and the honour of independence, the desire of that enlightened Prelate will be in some degree realized. C. H.

ARTICLE XVIII.

Case of Ulceration of the Duodenum, attended with Vomiting and Constipation.

BY CHARLES HASTINGS, M. D.

H. W. aged 30, was received into the Worcester Infirmary on the 10th of March, 1813. This woman had for two months been affected with costiveness and occasional vomiting: the bowels had not moved for nine days previous to admission. She had, likewise, for the same space of time, complained of pain in the hypochondriac regions, and in the back, between the shoulders. She described the pain as having been very severe, so much so as to make her groan heavily. She also mentioned that she had a teazing cough, which produced pain in the epigastric and right hypochondriac regions, but her breathing was not difficult. By a dose of castor oil the bowels moved freely; but the symptoms were not relieved.

The bowels again became inactive; vomiting of nearly pure bile, in considerable quantity, generally occurred once in twenty-four hours. There was great soreness to the touch in the epigastrium and right hypochondrium. The pain was severe, more particularly in the back between the shoulders, in the epigastric region, and below the margin of the ribs on the right side. Pulse 96, hard. The skin, about nine days after she was admitted, became yellow. She emaciated. The countenance always expressed much suffering. She generally appeared to obtain some ease by bending her body over her knees. Remedies gave no relief. She died on the 31st.

On inspection of the body, there was no disease discovered in the cavity of the thorax.

Abdomen. The liver was healthy. The stomach also healthy. In the duodenum, beyond the part into which the biliary duct entered, an ulcer larger than a crown piece was found. The ulcer was of a cancerous kind; the edges of it were very ragged and everted. The surface of the ulcer was very irregular, from fungous excrescences. The coats of the intestine around the ulcerated part were much thickened. The other intestines were healthy.

There was no other mark of disease in the abdomen.

Observations. We are so little acquainted with the diseases which affect the duodenum, that every fact connected with the pathology of this part of the intestinal canal, should be accurately recorded.

The situation of the pain, its severity, the constipation, the coincidence of vomiting, the yellowness of the skin, seemed to favour the notion, that gall stones were impacted in the biliary ducts. On the other hand, the quickness of the pulse (96), the constant distress and anxiety of countenance, the great tenderness on pressure, the emaciation, all indicated some more destructive disease. The symptoms, however, did not admit a satisfactory explanation, until the mystery was cleared by post mortem examination. The history of the case seems important, as it proves, in conjunction with other facts, that changes of structure may take place in the duodenum which may, unless very narrowly watched, be mistaken for disease of the liver, or its ducts.

ARTICLE XIX.

Case of a Grub in the Cerebellum of a Horse.

On the 2nd of July, I was requested to attend a three-year old colt, labouring under the following symptoms.

Loss of voluntary power of the left (near) extremities, therefore unable to stand without support, inclining the head to the same side, an oblique direction of the eyes, no delirium, pulse 60, breathing little interrupted, fœces and urine passed without difficulty, extremities and skin warm, and would take food when raised. No external injury could be detected.

There was little variation in the symptoms until the 11th, when, on endeavouring to raise him, he died.

Treatment.—Repeated general and local bleeding, active purging, setons and blisters to the head and neck.

Post mortem examination, 24 hours after death.—On dividing the head from the neck, at the first joint, three or four ounces of dark coloured serous fluid escaped; on removing the coverings of the brain, three coagula of blood were seen on the right side the cerebellum; upon raising it, another presented itself, out of which crawled a Grub, (in size very like those taken from nuts, but much more transparent); considerable extravasation of blood into the membranes beneath it; also an effusion of the same kind of fluid above mentioned, in the whole cavity of the cranium.

The cerebrum was healthy, excepting its vessels being more turgid than usual. The contents of the thorax and abdomen, as I anticipated, I found quite healthy.

It may be well to observe, Mr. Kitsell, Surgeon, of Droitwich, was present at the dissection, and that I have the grub in my possession.

JOHN ROSE,
Veterinary Surgeon.

ARTICLE XX.

Rupture of the Trachea of a Mare.

August 5, 1825.—A cart mare, the property of Mr. C. residing 11 miles from this city, was kicked by a colt, upon the windpipe, about midway between the larynx and bronchial tubes, with such violence as to rupture it. The skin was not at all injured, or even the hair erased, the colt having no shoes on. The mare was suckling a foal, and pregnant also. She was working in the team immediately behind the colt, and he, proving very refractory, (not having been previously accustomed to work,) kicked many times with great violence, and, at length, effected this accident.

The mare shewed symptoms of uneasiness immediately afterward, in consequence of which, the proprietor had her taken out of the team, and bled copiously, In the course of the day, she increased in bulk very considerably, and by the following morning, was become an enormous size. It was then, (on the 6th,) that I first saw her, and after hearing the history of this very extraordinary case, I proceeded to examine the part minutely. I very readily discovered the rent in the windpipe, with my finger; it felt as though two rings had been broken. She did not seem to be in much pain, but was dull and dispirited. Pulse about 60, and not hard. The swelling was entirely emphysematous; it pervaded the whole exterior of the body, extending from the tips of the ears, to the basis of the tail. The legs were very much increased in size, in fine, the cellular membrane connecting the skin to the trunk, was inflated, almost as much as it possibly could have been.

To draw blood under such circumstances, appeared impossible; and fortunately, the quantity taken away the preceding day, was such, as not to make further venesection an object of very great importance.

I gave submuriate of mercury, in a full dose, and afterwards, a cathartic bolus. I also applied a bandage round the neck, moderately tight, having first placed a compress exactly upon the injured part; these I directed to be kept constantly wet, with an evaporating lotion. She was placed in an airy loose stable, warmly clothed, (the skin feeling rather cool,) and a good deal of friction frequently used. Green food was allowed her in moderate quantity, and water whenever she chose to drink. The bowels soon moved very freely, after which, the emphysema considerably decreased. In about a week, union, by adhesion between the skin and the injured part, took place, so as to preclude the possibility of further escape of air into the cellular texture; the bandage was consequently discontinued. Friction was still applied to the skin, in order to remove what remained of the emphysematous accumulation; and I advised that she be walked out an hour every day. Under this treatment, she perfectly recovered, and by the middle of September, was able to work as usual.

GEORGE CORBETT,
Veterinary Surgeon.

ARTICLE XXI.

Summary of Meteorological Observations made near Worcester, in the Months of January, February, and March, 1829.

BY JOHN WILLIAMS, ESQ., OF PITMASTON.

January.—The first four days of this month were mild, the wind then shifted from N. W. to N.; and on the 9th, it came from the N. by E.; the warmth of the German Ocean, however, kept the north easterly current at a temperature a little above the freezing point, till the 15th, when a mild frost set in; on the 23rd, the sensation of cold was very great, owing to a brisk gale of wind, which prevailed throughout the day; but the thermometer was not lower than 24° in the morning, and rose to 26° at noon. The night of the 24th being perfectly calm, and no clouds to prevent terrestrial radiation, the thermometer sunk to 11° at sun rise on the morning of the 25th; the following day we experienced a thaw. The general character of the month was dry and gloomy, with an uncomfortable sensation of cold, and very little sunshine; there was nothing, however, approaching to severity of frost, save from the 22nd to the 25th. The mean of the barometer exceeded 30.0.

February.—The barometer stood high till the 15th, the mean exceeding 30.30, with dry, cool, cloudy, weather, the prevailing wind being from the N. W.; the following ten days, the atmospheric pressure sunk below 30.0, with variable winds, some showers of rain, and a mild temperature, varying from 45° in the morning, to 50° at noon; the barometer rose again, and the weather was cold and cloudy till the end of the month.

March.—From the beginning of the month till the 18th, the wind continued in the cold points, mostly in the N. E., with a cloudy sky, which preventing terrestrial radiation, the nights were mostly free from frost, the thermometer varying from 36° to 40°, at 8 a. m., and from 44° to 48° at noon; the barometrical mean exceeding 30.0. About the vernal equinox, from the 17th to the 21st, we had southerly winds, and an increasing warmth, the thermometer rising to 57° at noon. Cool, cloudy weather again prevailed till the close of the month.

Vegetation, in consequence of the long continuance of a clouded sky, was very backward, the flowering season of the early fruit trees being, as compared with former years, about three weeks later than usual.

ARTICLE XXII.

A Summary of Meteorological Observations, at Hanley Green, three miles east of Malvern Wells, and at Malvern Wells, for the months of January, February, and March, 1829.

BY JAMES LEWIS, SURGEON.

January.—The mean of the barometer, from the 1st to the 26th of this month, was 29.30 for the maximum, and 29.25 for the minimum; from the 26th to the 31st, the maximum was

28.50, and the minimum 28.30. The thermometer, to the middle of the month, averaged 38°; from that time to the 26th, it varied from 22° to 28°, then rose to 38° until the end. The mean of the thermometer at Malvern Wells, during the whole of this month, was one degree higher than at Hanley. The prevailing winds were N. and N. E., and occasionally E. The weather, generally, until quite the end of the month, dull and hazy, attended with rain, and sleet occasionally, and accompanied with high winds, with but few fine days.

February.—The mean of the barometer, from the 1st to the 18th, was 29.70; from that period it fell to 28.50, till the end, when it again reached 29.30. The thermometer, for the first three days, was 31°, afterwards, till the end of the month, it rose to 42°, with very little variation. The prevailing winds of this month, were N. and N. E., with occasionally S. and S. E. winds, and generally speaking, cold. The weather, throughout, dull, with occasional rain, with a few fine days, and frosts; the nights, in general, exceedingly dark.

March.—The mean of the barometer, from the 1st to the 20th, was 29.30, when it fell to 29.90, and again rose to 29.25, until the three last days, when it fell to 28.70. The mean of the thermometer, during the whole month, was 45°. The prevailing winds E. and N. E., and occasionally S. E.; cold, with very little rain, during the whole month, and though there were many dull days, still the weather was very fine, and but little wind to what is generally expected at this period.

ARTICLE XXIII.

PAROCHIAL RETURNS of Births, Marriages, and Burials, that have been registered in the several parishes of the City and Suburbs of Worcester, including those of the several congregations who dissent from the Established Church, between the 1st of January and the 1st of April, 1829.

Births, 231; Marriages, 64; Burials, 174.

Women relieved by the LYING-IN CHARITY of Worcester, from April, 1828, to April, 1829—379. Children born, 384; Twins, 5; Still-born, 1; Died within a month, 21.

NOTICES AND ACKNOWLEDGEMENTS.

Dr. Mc Cabe's communication on Ulceration of the Intestines; Dr. Streeten's Report of the Worcester Dispensary; Mr. W. Hebb's cases of Poisoning; and Dr. Hastings' Observations on the Stethoscope, will appear in the next number.

Communications have also been received from Mr. Woodward, of Pershore; and Mr. Waldron, of Bath.

The Fifth Number will be published on the 1st of August, and the succeeding Numbers Quarterly.

All Letters and Communications, addressed, free of expense, (under cover,) to the Editors, at the office of the Worcester Journal, will receive immediate attention.

WORCESTER DISPENSARY.

1828. *First Quarter. January to March.* [Vol. I. page 207.]

DISEASES.	Total Cases.	Deaths	LOCALITIES.					SEX.		AGE.			OCCUPATION.			
			Canal.	Severn.	City.	Sub.	Coun.	Male.	Fem.	14	45	Above 45	Glover.	China Manu.	Seden-tary.	Active.
Abscess,	3			1	2			2	1	1	2		1			2
Amenorrhœa,	1				1				1		1		1			
Anasarca,	1					1		1				1				1
Aneurism of the Aorta, (abdominal)	1				1				1			1	1			
Bronchitis, (acute,)	6	2	1		5			3	3	1	2	3	2		1	2
Bronchitis, (subacute and chronic,)	29	2	9	3	15	2		12	17		8	21	16	1	5	7
Bronchocele,	2		1			1			2		1	1			1	
Carious Teeth,	1		1						1		1		1			
Cephalalgia,	7		2	2	3			2	5		3	4	3	2		2
Chlorosis,	1		1						1		1		1			
Cholera,	1			1					1		1		1			
Chorea,	1				1				1	1			1			
Colic,	1		1						1		1		1			
Diabetes, (mellitus,)	1				1			1			1				1	
Diarrhæa,	1			1					1		1				1	
Diseased Hip,	1		1						1			1	1			
Diseased Spine,	1		1						1		1		1			
Dyspepsia,	39		11	7	15	2	4	7	32	1	20	18	20	1	8	10
Dysuria,	1			1				1		1						
Enlarged Liver,	2		1	1					2		1	1	1		1	
Enlarged Tonsil,	1				1				1		1		1			
Enteritis,	1					1			1		1					
Eruptive disease,	1				1				1	1						
Erysipelas,	3				3			1	2			3	2		1	
Erythema,	1			1					1	1						
Fever,	27		14	3	8	2		12	15	8	15	4	12	1	4	6
Fractures,	2			1	1				2			2	2			
Gastralgia,	1		1						1		1		1			
Glossitis,	1			1					1						1	
Hœmoptysis,	1				1			1			1					1
Hœmorrhæa,	1				1			1				1			1	
Hepatitis,	2		1		1				2		2		2			
Hydrops,	3				3			3			1	2	1			2
Hydrops Ovaria,	2	1	1		1				2			2	2			
Hydrothorax,	1					1		1				1				1
Hypertrophy of the Heart,	1					1		1			1					1
Hysteria,	1				1				1		1		1			
Hysteritis,	1	1	1						1		1					1
Ischuria (renalis and icterus)	1				1			1			1					1
Menorrhagia	4		1	1	2				4		4		3		1	
Mesenteric disease,	1		1						1	1						
Nephralgia,	1		1						1		1		1			
Neuralgia, (facialis,)	2				1	1			2			2	1		1	
Palpitatio,	2			1	1				2		2		2			
Paralysis, (partial,)	1		1						1			1			1	
Perforation of the Duodenum (external)*	1		1						1		1		1			
Peritonitis,	1					1			1	1						
Pertussis,	1		1					1		1						
Phthisis, (laryngialis,)	1				1				1		1				1	
Phthisis, (pulmonalis,)	22	4	9	5	7		1	6	16	1	19	2	16	1	1	3
Pleuritis, (acuta,)	3		1		1	1			3	1	2		1			1
Pleuritis, (chronica,)	4		1		2	1		1	3		1	3	2			1
Pneumonia,	11	1	4	1	5	1		2	9	2	6	3	5	1		3
Prurigo,	1					1			1			1				
Psoriasis,	3		1	1	1				3		2	1	2		1	
Rheumatism, (acute,)†	5	1		2		3		3	2		3	2	3			2
Rheumatism, (chronic,)	3				3			1	2			3	3			
Scarlatina,	1				1				1		1					1
Sciatica,	3		1		2			2	1		2	1				3
Scrofula,	4		2		1	1		3	1	2	2		1		1	1
Spinal Inflammation,	1				1				1		1		1			
Stricture of the Urethra,	1				1			1			1				1	
Syphilis,	2		2						2		2		2			
Tracheitis, (chronic,)	2				1	1			2	1	1		1			1
Tumour in the Epigastrium,	1					1			1		1					
Ulcers,	7		2	1	3		1	1	6	1	1	4	2		2	2
Ulcerated Fauces,	1				1			1		1			1			
Uterine Hœmorrhage,	1				1				1		1				1	
Variola,	1	1			1			1		1						
Unknown,	6	1	3	1		1	1	1	5		2	3			1	1
	251	14	80	36	104	24	7	74	177	28	129	91	125	7	36	56

* Fatal Case, terminated in Hepatitis and Icterus.
† Re-admitted next Quarter, and proved fatal.

WORCESTER DISPENSARY.

1828. *Second Quarter. April to June.*

DISEASES.	Total Cases.	Deaths	LOCALITIES.					SEX.		AGE.			OCCUPATION.			
			Canal.	Severn.	City.	Sub.	Coun.	Male.	Fem.	14	45	Above 45	Glover.	China Manu.	Seden-tary.	Active.
Ascarides,	1		1						1		1		1			
Asthma,	1				1				1			1			1	
Bronchitis, (acute,)	1					1			1			1				1
Bronchitis, (subacute and chronic,)	6			3	3			2	4	1	3	2	2		1	2
Bronchocele,	1					1			1		1					1
Catarrh, (chronic)	1				1			1				1				1
Cephalalgia,	2			1	1			1	1		1	1	1			1
Colic,	3			1	1	1		1	2		3		1			2
Constipation,	2				1	1		1	1	1	1		1			
Contusions and Wounds,	5			2	2	1		2	3		1	4	1			3
Cynanche tonsillaris,	1					1		1			1					1
Diarrhæa,	2		1		1			1	1		2		1			1
Diseased knee-joint,	1			1					1		1				1	
Disordered bowels,	1					1		1		1						
Dysentery,	1				1				1			1				1
Dyspepsia,	19		5	3	8	3		3	16		12	7	10	2	4	2
Enteritis,	1		1						1		1		1			
Epilepsy,	2		1		1			1	1		2					2
Erysipelas, (phlegmonous,)	1			1				1				1				1
Erysipelas, (sloughing,)	2	1	1		1			1	1			2			1	
Feigned disease,	1			1					1		1				1	
Fever,	15	1	7	3	4	1		4	11	2	7	6	5	1		7
Fracture,	1				1				1			1				
Hepatitis,	5		1		3	1		1	4		4	1	2			3
Hydrops,	1					1			1		1		1			
Hydrops pericardii,	1		1						1			1			1	
Hysteria,	1		1						1		1				1	
Icterus,	1		1					1			1		1			
Inflamed leg,	1				1			1				1				1
Iritis, (syphilitic,)	1			1					1		1					1
Leucorrhœa,	1				1				1		1		1			
Menorrhagia	2		1		1				2		2		2			
Midwifery case,	1			1					1		1		1			
Nephralgia,	1		1						1		1		1			
Neuralgia,	1			1					1			1				1
Opthalmia,	1						1		1	1						1
Palpitatio,	1				1				1		1				1	
Peritonitis,	1		1						1		1		1			
Pertussis,	1			1				1		1						
Phthisis, (pulmonalis,)	6		2	1	3			2	4		4	2	3		1	2
Pleuritis,	2		1		1			2			1	1	2			
Pneumonia,	4		1	1	2			1	3	2	2		3			1
Prolapsus uteri,	1				1				1			1	1			
Psoriasis,	3		2				1	2	1	1	1	1	2			
Rheumatism, (acute,)	2			1	1				2		2		1		1	
Rheumatism, (chronic,)	5		4		1			1	4		2	3	3		1	1
Scrofula,	3		1				2	1	2	1	2		2			
Sprained shoulder,	1				1				1		1					1
Stricture of the Rectum,	1		1						1		1		1			
Stricture of the Urethra,	1			1				1			1					1
Syphilis,	1		1						1		1		1			
Tumour on the head,	1		1					1			1			1		
Variola,	3	1	1		1	1		3		2	1					1
Unknown,	3		1	1		1		1	2		2	1	2			1
	129	3	40	25	45	15	4	40	89	13	75	41	55	4	15	41

Re-admissions from last Quarter, 25, one of which, the case of Perforation of the Duodenum, proved fatal.

THE MIDLAND

Medical & Surgical Reporter,

AND

TOPOGRAPHICAL AND STATISTICAL JOURNAL.

HOMO, NATURÆ MINISTER ET INTERPRES, TANTUM FACIT ET INTELLIGIT, QUANTUM, DE NATURÆ ORDINE, RE VEL MENTE OBSERVAVERIT; NEC AMPLIUS SCIT, AUT POTEST.—BACON, NOVUM ORGANUM.

No. V. AUGUST, 1829.

MEDICAL TOPOGRAPHY. ESSAY II.

THE WORCESTER GENERAL INFIRMARY.

[CONTINUED FROM PAGE 89.]

CONSIDERING that the establishment of hospitals and provincial infirmaries has had considerable influence in producing the improvements in modern medical science, it is surprising how little attention has been paid by English medical authors, to lay down rules for the improvement of their construction, and the administration of their medical and domestic economy. This neglect is to be regretted, as greater attention to this part of medical police, would probably, ere now, have occasioned a still better system of management, and a consequent extension of the advantages that most undeniably arise from these admirable institutions. It is our intention, even at the risk of occasional prolixity, to devote some portion of our pages to this important subject. And we do not think that we can be accused of any disposition to disparage the benevolent and praiseworthy exertions of those Physicians and Surgeons that have a considerable share in the control of provincial hospitals, and who, in almost every instance, devote their time and attention to these valuable institutions gratuitously, if we hold up to their imitation the excellent discipline now established in our military hospitals, a discipline which, by preventing the extension of disease in the late peninsular war, had, perhaps, as much influence as any other cause, in enabling our great captain to lead on his victorious troops to a favourable termination of that eventful contest.

It is much to be desired, that the deficiency in English Medical Literature, respecting the management of these institutions, should be supplied, and we know of no means so likely to effect

this object, as the plan, under some modifications, adopted in military hospitals, by which, every surgeon of a regiment is called upon for a document, descriptive of the state of the hospital of which he has the charge. Such documents, if they were kept with accuracy in provincial hospitals, and occasionally made public, would hereafter furnish invaluable materials to the profession at large.

We have, already, through the kindness of our esteemed correspondent, Dr. Walker, communicated much valuable and useful information on English Hospitals, and we trust, by keeping the attention of the profession alive, we may yet elicit much satisfactory intelligence on this head.

We refer any of our readers, who may be desirous of seeking information as to the means by which they can forward this good purpose, to an excellent review of Dr. Carter on Foreign Hospitals, in the Edinburgh Medical and Surgical Journal. The reviewer says, "we should be grateful to that author who, after giving us a brief memoir on the medical topography of a place, should inform us of the site, size, and plan of its hospital; the number and accommodation of the wards, with the methods of ventilating, warming, and cleansing them; the plans for separating and classifying the patients; their numbers; and the measures pursued for obviating or checking contagious diseases among them; the material, and arrangements of their beds, bedding, and other articles of furniture; the means of collecting and conveying the sick to the hospitals, with a statement of the obstacles or facilities of access to the building itself, as well as to its various apartments. We should expect an account of the plan, extent, and arrangement of the kitchens, baths, and washhouses, and of their supply of cold and hot water and steam, together with a detail of all contrivances for the abridgement of labour; the diminution of the consumption of fuel; and the increase of the nutritive quality of the food, or its fair, regular, and comfortable distribution. Knowing, as we do, how much the individual comforts of the sick, and the general good order of an hospital, depend on the water-closets, we should attach great importance to the description of their site, size, and actual state; the extent of their supply of water, air, and light, and the measures adopted for removing the soil, or preventing the diffusion of unpleasant or unhealthy effluvia. To all this information on the immediate accommodations for the sick, we should wish to be added an account of the storehouses and offices of every description; the airing ground for convalescents; the places of reception for the dead, with the modes of disposing of the bodies. We should expect, also, a statement of the rank, number, salaries, and duties of the various officers of the establishment, whether medical, surgical, or purveying, with an enumeration of the servants of different classes, their wages, the proportion which they bear to the sick, and the respective duties which they perform. In short, we should wish for information on every thing subser-

vient or preparatory to the grand objects of administering food, medicine, and surgical assistance.

"We should then be prepared for a view of the mode of carrying on the medical, surgical, pharmaceutical, and purveying duties, which would naturally lead us to the history of new or peculiar practices or operations; accounts of new remedies; details of the diet, ordinary and extraordinary; administration of wine and other cordials. The source of revenue from which these wants are supplied, should be specially enumerated, and from all these premises, we should have no difficulty in entering into a view of the expenses of the establishment. The nature of the records and annals kept at the hospital, should be stated to us, and from these, interesting information on comparative mortality, prevalence of diseases, and peculiar epidemics, originating either from within or without, might be afforded, as well as satisfactory notices on every other point, medical, statistical, or financial."

In the seeond number of the Midland Reporter, we have given an historical account of the Worcester Infirmary, which embraces many of the details that are required in the above excellent outline of what is necessary to give a correct idea of the state of a hospital, and we shall now proceed to relate such further particulars as may appear desirable. This Infirmary, which is composed of brick, stands on an airy spot, overlooking Pitchcroft Ham and the Severn. It is situate on the extreme northern boundary of the city, and forms a striking object from the adjoining country. It is distant from the bank of the river about 400 yards, and the ground on which it stands is elevated about 40 feet above the bed of the river. There are attached to the building about $2\frac{1}{2}$ acres of land, the greater part of which is laid out in a garden; there is a part also set aside for an airing ground for the patients, but this is comparatively of small extent, and does not afford any accommodations or means of amusement for convalescents. The whole of the land is surrounded by a high wall, which does not seem desirable, as it certainly counteracts that free circulation of air always to be wished near hospitals; and, besides, the reflection from it, in the hot season, is very unfavourable to those convalescents who are exposed in the airing ground. The building consists of four stories. The base of the edifice is a parallelogram. The one entrance is by a door at the north end, which admits us to an area, where the wash-house and coal-yard are detached from the building; from thence we are led by a door, to the basement story, which contains the kitchen, the laundry, the bake-house, the matron's room, and various domestic offices. These are all good, but after the old fashion. We have none of those improvements in the cooking apparatus, which have been employed with so much success in the modern buildings, particularly at the Derbyshire Infirmary. Neither have the modes of washing and drying the clothes, adopted there with so good an effect, been imitated. In fact, there would be a difficuly in adapting to a building erected in the

middle of the last century, those inventions that have so happily found a place in the more modern structures.

At the southern extremity of the basement story, there is also a room for the reception of the dead, and one adjoining it for anatomical purposes.

The principal entrance to the Infirmary is at the eastern front of the building, where we approach it through iron gates, and after passing the front garden, ascend by steps to a double door, which admits us to the hall; this is a spacious room, situate in the central part of the second story; here are benches placed for the out-patients, who attend on the physicians and surgeons, on Wednesday and Saturday; and here also those wait who come to be admitted as in-patients. It is a very cold situation in the winter season, and it is much to be wished that some better plan could be had recourse to, by which those affected with severe pulmonary and acute affections, should not be exposed to the risk of cold, by remaining in so very unfavourable a situation, until they can be admitted by the medical attendant. Besides the hall, there are two wards in this story, one for men at the southern end, and the other for women, at the northern end; the men's ward is 56 feet long, 19 feet 11 inches broad, and 14 feet high; it receives 16 patients. The women's ward is 22 feet longer than that for the men, as to this part of the building an addition was made in the year 1822, and it receives 19 patients. In addition to these, the second floor contains the board room, which is also used for a chapel and a physicians' room; the apothecaries' parlour, used likewise as a surgeon's room, and to receive a small collection of specimens of morbid anatomy; the dispensatory, the surgery, and the secretary's room. From the second to the third story, there are two stair-cases; one at the north, the other at the south; that at the north is of stone, and is wide and handsome, and well lighted. The other stair-case is of wood, and is rather narrow. At the north and south of this story, there are wards precisely similar to those described in the second story, and each is appropriated to the reception of the same number respectively of male and female patients. Besides these, in the centre of this story, there are three smaller wards, two of them for men, and the other for women. One for men to the west, which was formerly a chapel, contains five beds; the other, likewise for men, which contains four beds, lies to the east; they are both convenient wards. The ward for women only admits two beds, and is used as a private room for cases that require quietude. In this story are also the bath room, the matron's and the house surgeon's bed-rooms.

From this story, we proceed, by a narrow wood stair-case, to the attic story, in which there are four wards, as well as bed-rooms for the apothecary's apprentice, the nurses, and other servants. The wards are situate in the north and south of this story, and one of them is occupied by ophthalmic patients; these rooms are rather low, being only seven feet three inches high. They contain, altogether, nineteen male patients.

As the crowding together too many patients, is one of the most frequent sources of disease arising within the walls of hospitals, we may here inquire whether there is an ample space allotted in the Worcester Infirmary, and we will sum up the opinion we have formed on this subject, by saying, there is about a third of deficiency in point of space; it is obvious that the height of rooms, as well as their length and breadth, ought to be determined according to the number of patients to be admitted into them. If it were under our management, the space allotted to each bed should never be narrower than a quadrangle of six feet, and when the room is low, even more space should be allowed. In the wards we have described, the space to each bed, in the least crowded, is less than that now stated. The Governors of these institutions should always bear in mind, that the less crowded a hospital is, the more rapidly are its inmates restored to health, and they are also found to be less liable to contagious diseases.

It is also a thing of the greatest importance to arrange the sick in classes, acute diseases being separated from the chronic; the surgical from the medical; and the convalescents being set apart by themselves; moreover, in all well regulated hospitals, private chambers should be set apart for the sick who require seclusion. In the Worcester Infirmary, in common with most institutions erected in the last century, there are very small means for this desirable separation of the patients. Even the very imperfect classification of them into medical and surgical, cannot be effected. In any future alterations that may be made in this edifice, this desirable object should be strictly kept in view, and we are sure, by the expenditure of a comparatively small sum for this purpose, the benevolent intentions of the founders and present supporters of this noble establishment, would be promoted. With respect to the general size of the wards, there is nothing to object in the Worcester Infirmary; we believe that experience has now shown, that an apartment of moderate size is always best accommodated to the use of the sick; for it is more easily preserved clean, ventilated, and warm. Wards that contain 20 beds, are well adapted to ordinary, and those which contain from 10 to 6 beds, answer very well for the more vehement diseases; so that the primary construction of the institution we are describing, accords very well, in this respect, with our notions of propriety.

Another very important consideration, as connected with the healthiness of the hospital, is the ventilation, by which the chambers of the sick should be supplied with a fresh and steady supply of fresh air, but so introduced, that all dangerous effects that are apt to happen from cross streams, be guarded against. This is generally well managed in the Worcester Infirmary, as there are apertures pierced through the wall near the floor, by which pure air is admitted, and the upper frames of the windows at each end of the large wards, pull down, so that the heated and impure air makes its way, and escapes at once;

at the same time, currents of air are prevented descending from the windows to the beds, by proper frame work, which projects from the windows. But the most defective part of this ventilation, is the central circulation through the passages leading to the wards, which being narrow, allow a stagnation of air in them. We may likewise remark, that the fire places, which may be made so very serviceable in assisting the ventilation, as well as warming the chambers, are very old and defective; there are only two of them that should be permitted to remain in the wards, as the present improved means are now so readily procured for effectually warming and ventilating chambers. The greatest cleanliness is rigidly enforced, as regards the persons, bed-chambers, beds, and blankets of the sick. Some things, however, which are very desirable, are not attended to; the bedsteads, which are of iron, should stand at some distance from the wall, towards the centre of the room, whereas, they touch the wall; the beds, too, should be elevated at least two feet from the ground, which they are not. By adopting these measures, filth would be prevented from accumulating, and the servants would be better enabled to approach so as to remove it; and thus a continual renovation of air would be produced around the bed.

The great importance of the good management of water-closets in hospitals, is now generally admitted; as far as regards their construction, situation, and size, we see very little to object to those at the Worcester Infirmary; the admission, too, of light and air, is sufficient; and when they are well supplied with water, there is no diffusion of unhealthy or unpleasant effluvia, the foul air being immediately carried away; neither is there any collection of soil near the closets, for it is easily washed away from the pipes, which empty themselves into a large drain on the western side of the building; this drain communicates with one still larger, that runs down to the river, which is forty feet lower than the Infirmary, and consequently, there is an easy descent for these nuisances. The number of water-closets in the Infirmary is seven, there being one in each north and south ward of the second, third, and attic story, and one attached to the offices in the basement story. Those which are in the northern wards of the building are of sufficient size, and situated conveniently for the wards; but those in the south wards, which were ereeted in the year 1826, are rather deficient in size. We have also to notice a great defect in that which belongs to the south attic ward, for to it the patients descend by steps, which is very inconvenient for lame people. We need scarcely here remark how very necessary it is in hospitals that there should be no needless difficulties of access to the several parts of the building. In other respects the closets are well adapted to their intended purpose, and particularly as there is no assistance required on the part of the patient to obtain the water to carry away the soil, for they are so contrived, that the person who uses them, by lifting up the lid of the seat, admits a supply of water, and by shutting it, the water and soil are discharged.

But however good the construction of water closets may be, it is rendered nugatory, if there be not also an abundant supply of water. It is much to be regretted that for many years this Infirmary has had to encounter this inconvenience; even so far back as the year 1790, the evil was much felt and complained of. In the report of that year the Governors say, "our Infirmary, allowed in its structure and accommodations to be highly conducive to its purpose, the restoration of health, still wants one desirable convenience, a more constant supply of water, and there is no doubt but the expense would be supplied from that public munificence which has always seasonably and providentially supported the interests of this establishment." It appears, however, that the munificence of the public at that time of day, did not equal the expectations of the Governors, for the appeal thus made, was not followed by any attempt to remedy the grievance, and from that time to the present, it has been a source of annoyance to the patients and their attendants. It is very surprising that this glaring defect should have continued, whilst in other respects so much improvement has taken place. Even at this present time, the water for cleansing the attic story is carried in vessels from the basement story. We are happy, however, to find, that latterly, the Governors have become quite convinced of the necessity of adopting a better system, and they are now about to employ a steam engine, to force the water to the upper story of the building, and thus give a good supply to every part of the establishment.

The bath room in this Infirmary is situate in the third story; there are two warm baths, a vapour, and a shower bath. Their situation in this part of the building allows an easy access for the patients to them, from all the wards of the establishment; this we consider of very great importance, for it is but too frequently the case, in institutions of this nature, that the patients, owing to an inconvenient arrangement of the bath room, are exposed, in their passage to it from the wards, to injury from cold. The facility, too, with which the water is heated, and conveyed to the bath, we consider highly desirable. This is effected by a reservoir of water, which is filled by an hydraulic pump, being heated by steam in the room adjoining the bath room, and the heated water is conveyed by pipes to the bath, so that a warm bath may always be obtained without much delay.

The vapour bath, in its present state, is almost dangerous; it has very clumsily and inconveniently a covering of wood to it; this cover should be removed entirely, and a capuchin adapted in its place, so that the patient may breathe the air of the apartment, and his face may be in the view of the assistant during the whole operation. The shower bath is sufficiently convenient, and in our estimation, supersedes the necessity of the use of the plunge bath, on almost every occasion.

These baths are likewise open to the public, by paying certain rates; this plan may answer very well in some cases where, as

at Derby, besides the baths on a small scale for the use of the patients in the Infirmary, there are two of large dimensions, situate near the main entrance of the building, and accessible to the public without exposure of the patients to them. But with regard to the connection of public baths with a hospital, when, as at the Worcester Infirmary, the persons must pass through passages, in which they may meet with sick of all descriptions, little benefit is to be expected from it to the funds of the establishment. On the contrary, the general advance of civilization and domestic comfort, will every day render it less and less necessary for those who can pay for it, to resort to the baths of an infirmary. The timid invalid will be deterred from resorting to baths so placed, and will prefer the additional expense of procuring the same remedy at home by means of the slipper bath or similar expedients. It becomes, then, a question of easy calculation. If the expense, and trouble, and annoyance, attending these baths at present, is not compensated for by the public, at the present scale of remuneration, there is nothing to be hoped for in future, as a matter of speculation, and it would, therefore, be better to extinguish this branch of the establishment at once.

In the supply of food, every care is taken that it shall be of the best quality; for this purpose the weekly board regularly inspect the provisions, and if they are not of a proper kind, the matron is desired to return them. There are three kinds of diet specified in the diet table, "*the house diet*," "*the full diet*," and "*the low diet*."

House Diet.—Breakfast consists of one pint of milk pottage. Dinner of four ounces of meat every alternate day, with potatoes, and on the intermediate day, eight ounces of rice or bread pudding, with beer. Supper of one pint of milk pottage; besides eighteen ounces of bread per day.

Full Diet.—Breakfast the same as on house diet. Dinner, six ounces of meat every day, with vegetables and beer. Supper, one pint of milk pottage. The bread as on house diet.

Low Diet.—Breakfast consists of a pint of water gruel. Dinner of rice milk or panada. Supper of water gruel; bread as on house diet.

We are well aware that the British hospital dietary in general, is so high in comparison with that of foreign hospitals, that it is a question with some eminent men, whether it cannot be reduced with advantage, both in a medical and financial point of view. From such an opinion we entirely dissent, and we appeal to those who are conversant with the practice in our infirmaries, whether they do not daily observe the greatest benefit arise in many of the diseases with which the patients are admitted into such institutions, from the liberal sort of allowance which is afforded them by the diet table at the Worcester Infirmary. In many of the cases, the power of starvation over the disease, has been fully tried before admission, and in such instances, they feel the beneficial effect of a wholesome diet in a very striking

manner. It is only in the more acute cases of disease amongst the poor, that a parsimonious diet can have any good result, and even in these, it cannot generally be carried to the same extent as with our more affluent patients. There is not, we are sorry to say, any refectory at the Worcester Infirmary, and consequently, the patients take their meals in their respective wards; as this practice is, on many accounts, reprehensible, we hope that the Governors will consider whether, in any future improvement of the building, they cannot remedy this evil. In taking leave of the consideration of the supply of food, we must not omit to mention, that the articles mentioned in the diet table, are not the only kind of food and beverage allowed. The medical attendant has it in his power to order such quantities of spirits, wine, porter, or milk, as he may see fit, and separate books are kept in which such orders are entered.

With respect to the pharmaceutical department, it is principally under the care of the house surgeon and apothecary, who compounds the physicians' and surgeons' prescriptions; but he is not the purchaser of the drugs; that is done by a board, consisting of the physicians and surgeons, and two inspecting apothecaries. A Pharmacopœia has been published, which contains the general formulæ of the hospital, and the medical officers are guided by it in their prescriptions. We need not here enter into any account of its contents. The surgical instruments are bought by the infirmary for the surgeons, who, indeed, have the power of ordering any instruments they may think necessary for the use of the establishment. Trusses are likewise given to the patients who require them.

We cannot say much in favour of the manner in which the records of this institution have been kept by the physicians and surgeons. In common with most of the infirmaries with which we are acquainted, the information to be collected from them is very sparing. The books which contain the prescriptions from the commencement of the institution, are extant; but they only contain a very meagre description of the symptoms, when the patient is admitted, and the medicines prescribed afterwards; but they give no account of the change which may have taken place in the symptoms, calling for any alteration of treatment. The event of each case is also recorded; but no account of the dissection is given when death has occurred. Within the last few years, it is true, that some of the medical officers have been more particular in their account of cases, but so partial is the custom, that it is comparatively of little value. It is manifest, that if the valuable results of the hospital practice throughout the kingdom at large, could be brought before the public in an authentic shape, the measure would be attended with the greatest possible advantages. Thence would arise the most valuable documents from which to collect materials, that would at any rate be authentic, and impartial evidence, from which conclusions might be drawn, or improvements suggested, that might lead to

very favourable results in every branch of the healing art. We cannot press too strongly on the profession, the necessity of attention to this subject, and we do so the more earnestly, because we feel, that by the sacrifice of a very small portion of time, the medical officers of every infirmary in this kingdom, might furnish monthly tabular records, giving an account of the principal cases under their care, and also of every peculiar occurrence, as epidemics within the establishment; any remarkable accident; any peculiar modes of treatment; any particular formulæ not in general use; and above all, accurate descriptions of the morbid appearances in all fatal cases. Annals of the above kind, would not only afford most valuable information to the public, but they would also tend materially to improve the discipline of hospitals, and lead to a much more systematic arrangement of the respective duties of the officers of these establishments.

But let us return to the description of the Worcester Infirmary, where, for many years after the institution was founded, the physicians alone kept books, in which the remedies were entered. If a case required surgical aid, the surgeon appears to have attended, but the physician only prescribed; latterly, however, each physician and surgeon has had a book, in which the house surgeon has entered the prescriptions that are written by each officer individually.

We have been at some pains to ascertain, from the reports, which have been here published annually, as at most provincial infirmaries, of those cured or dead; the ratio of mortality since the establishment of the Worcester Infirmary, and the following account of every tenth year, appears to us worthy of being placed upon record.

Year.	*No. In-Pat.*	*No. Dead.*	*Out-Pat.*	*Do. Dead.*	*Total Patients.*	*Total Deaths.*	*Ratio of Deaths.*
1748	158	8	244	9	402	17	1 to 23.5
1758	249	18	567	9	816	27	1 to 30.2
1768	440	25	540	20	980	45	1 to 29.7
1778	360	21	585	22	945	43	1 to 21.9
1788	406	20	899	43	1305	63	1 to 20.7
1798	331	11	825	24	1156	35	1 to 33.0
1808	451	14	781	16	1232	30	1 to 41.0
1818	462	17	1360	10	1822	27	1 to 67.4
1827	766	30	714	11	1480	41	1 to 36.0

The information derived from the above comparison of the ratio of mortality in the several years, of which we have records, is very gratifying, as it shews that latterly, there has been a considerable diminution of the proportional number of deaths to admissions; for previous to the commencement of the present century, the ratio of deaths to admissions, was about 1.25, but since that time, the ratio has been about 1.35. It would be very interesting to be able to point out, with any degree of accuracy, the circumstances that have led to the diminution of mortality, which the above facts prove, beyond dispute, to have taken place at this Infirmary within the last thirty years. We should be glad to discover, whether the above change has been effected

by a diminished severity in the diseases for which patients have been admitted, or from an improved domestic economy, and a more efficient medical practice. The records that have been kept, throw no light on this important consideration, and speculation would be vain. We may remark, the more severe the diseases, and the more violent the injuries, the greater the mortality will be of course; but, at the same time, it is evident that a greater mass of human misery is selected for alleviation. Before we can venture to make comparisons of the relative mortality of different hospitals, or of the same hospital at different periods of time, we ought to be well informed of the nature of the diseases admitted, and numerous preliminary considerations are required, before an opinion can fairly be pronounced upon the mortality of any hospital. It is important to observe, that from the commencement of the establishment to the present time, a large number of the medical cases received into the Worcester Infirmary, have been of a chronic nature. Intermittent fever, which has now almost disappeared, was a very frequent occurrence in the earlier years of the institution. The various forms of scrofula, consumption and rheumatism, have ever been conspicuous. The surgical cases are more numerous than the medical, but as we have no machinery in our town or neighbourhood, on a large scale, the number of accidents is not large. Till within these few years, amputations for diseased joints were very common, but whether from better management of these cases in their early stages, or from some other cause, the surgeons are now much less frequently called upon to amputate. Lithotomy is but seldom performed, as stone in the bladder is by no means a frequent disease in this neighbourhood.

With regard to epidemics that may have arisen within the Infirmary, we have no notice earlier than the year 1812, since which time, erysipelas and gangrene have repeatedly attacked its inmates, and have often been severe and fatal. We may take a future opportunity of giving a more particular account of these epidemics, as we possess statements of many of the cases; but at present, we shall only observe, that in the year 1826, in consequence of a very strong representation from the physicians and surgeons on this subject, in which they stated, that the erection of water closets, and a separation of some of the worst cases of disease, from those of a less severe nature, would go far to remove the evils complained of; the Governors erected water closets, and also fitted up two large rooms in the centre of the building, for the reception of nine male patients. This measure has been productive of the happiest results, for since that period, the occurrence of erysipelas and gangrene has been much more rare; indeed, no fatal case of either of these affections, has for some time occurred. It is peculiarly gratifying to be enabled to record this fact, for we cannot conceive any event more afflicting, than that of a healthy individual meeting with an accident, not of a fatal, nor even of a severe nature, and from which, left in his

cottage, with very little medical attendance, he would readily recover; being sent to an infirmary, for what is considered the best surgical advice, and there poisoned by breathing a tainted atmosphere, which produces a fatal disease, not at all directly connected with the accident. It is, indeed, an objection, and the only objection, that can by possibility be made to infirmaries, that the congregating the sick together, sometimes produces a disease "sui generis," which, by being combined with some trivial disorder, for which the patient is admitted, may lead to a fatal termination. This consideration should never be lost sight of, by those who have any share in the administration of the affairs of hospitals, and should remind them, that they are bound to neglect no means by which they can render these institutions more perfect in their construction, and less liable to generate disease within their walls.

We think that the foregoing details of the construction of the building, and of the management of the Worcester Infirmary, are sufficient for our purpose. It does not strike us, that, in the remarks we have made on the general system that is there adopted, and on the accommodations that the house affords, we can be suspected by the warmest friend of the charity, to entertain a wish of submitting to severe or unnecessary criticism, the economy and arrangements of this institution. For there are few persons who will not admit, that in the present state of society, and with the disposition that pervades all ranks in this kingdom, to push forward in the race of improvement, no good can be gained by indiscriminate praise of institutions, however admirable in principle, or excellent in practice. On the contrary, considering that imperfection is inseparable from our condition here, we hold that the defects in all establishments, whose aim is the alleviation of human misery, should be fairly stated, that their supporters may be continually animated by the desire of improvement, and unwearied in their exertions to effect it.

ARTICLE II.

On Ulceration of the Intestines.

BY JAMES MC CABE, M. D., CHELTENHAM.

"Cum in interioribus partibus et dolores et morborum varia genera nascantur, neminem putant his adhibere posse remedia quæ ipse ignoret. Accessarium ergo esse incidere corpora mortuorum, eorumquæ viscera atque intestina scrutari. Longeque optime fecisse Herophilum et Erasistratum qui nocentes homines, a regibus ex carcere acceptos, vivos inciderint, considerarintque, etiam spiritu remanente, ea quæ natura ante clausisset.————Neque esse crudele sicut plerique proponunt, hominum nocentium, et horum quoque paucorum suppliciis, remedia populis innocentibus sæculorum omnium quæri."

Celsus de Medicina.

At a time when Pathological investigations occupy so much of the attention of the medical profession as they do at present, it becomes an interesting subject of inquiry, how far such investigations assist us in the treatment of disease. How far the morbid condition of parts of the human body, as ascertained by post-mortem examination, is capable of directing our future practice in diseases which may be supposed to have occasioned that morbid change, and what are the circumstances that ought to guide our judgments, or influence our opinions in making our practical deductions.

Whoever reads the quotation from Celsus, placed at the head of this article, must admit that the Antients did not yield in zeal even to the most zealous among modern pathologists. Fortunately, indeed, for the interests of humanity, the prisons of modern princes and states are not thrown open, to afford a supply of living subjects, as were those of the Ptolomies of Egypt. And modern investigators, if impelled by the love of science, or the less laudable motive of curiosity, to examine the "spirantia exta" of living animals, are content to take a peep into the interior of rabbits, dogs, and monkies. It is well, however, that the legislators of other states, had not copied the liberality of the Egyptian code, for, from the manner in which the dissections of Herophilus and Erasistratus were attempted to be justified by cotemporary and subsequent pathologists, it is probable, that had the laws permitted, some might have been found among their eulogists and admirers, who would have followed their example; and in their pathological enquiries, instead of experimenting on rabbits, dogs, and monkies, might have given the preference to individuals of the "genus homo." The classification which Celsus adopts with regard to the parties to be dissected, whom he calls "homines nocentes," and also the parties to be benefitted by that dissection, the "populi innocentes," would have given great latitude for legal refinements, to the Roman Jurisconsulti, had the law obtained at Rome; and might occasionally, by the ingenuity of counsel, have occasioned the parties to change places. The punishment of dissection, which the criminal law of England awards for the crime of murder, has no doubt been derived from the Alexandrian code, bearing the stamp, however, of the genius of the country that has adopted it, in which the division of labour is carried to a greater length than in any other country. In Egypt, the country which it appears has the barbarous distinction of having originated the law, the criminal was put to death by the knife of the anatomist, or if you will, of the pathologist; but in our imperfect adaptation of the code, the hangman and the anatomist are both employed in succession, the precedence being given to the former; so that in cases of murder, it is quite a mistake to call the hangman the finisher of the law; and had those distinguished pathologists, Herophilus and Erasistratus, instead of Alexandria under the Ptolemies, carried on their dissections in Modern Athens; and had the inge-

nuity of Burke and Hare been resorted to as a substitute for the Ptolomean code, it is probable that no speculative advantage to the "populi innocentes" resulting from their enquiries, would have saved them from their own classification of criminals, "homines nocentes," and that the knife of some northern anatomist would have inflicted on them the last vengeance of the law.

With regard to the term morbid anatomy, or morbid appearance of parts on dissection, it would appear to imply the existence of a healthy standard. Nothing, however, is more difficult, than to define or decide what ought to be considered a healthy appearance. Should the cruel dissections to which I have alluded, have been undertaken, with the hope of fixing that standard, a soldier whof alls in battle is likely to approach nearer the standard of health, than a criminal, whose health may have suffered from the riot and dissipation which had probably attended a life of criminality, and the mental anxiety, impure air, and other depressing causes, which necessarily attended his subsequent incarceration. And as to the observation of the phenomena of animal life in a living animal, the examination of the "spirantia exta," it is probably rather an object of curiosity than utility; we may therefore agree with Celsus, that all the benefit to be derived from dissection in pathological enquiries, may be derived from post-mortem examinations. Therefore, that dissections ante-mortem, of even rabbits, dogs, and monkies, might be dispensed with, without any injury to science.

Of all the diseased appearances which post-mortem examinations present to the eye of the pathologist, ulceration of the intestines, or, at least, an increased vascularity of their coats, is by far the most frequent. Let the disease be what it may which produced the fatal termination of a case, we generally find what are considered morbid appearances among the intestines. On laying open the intestinal tube, the mucous membrane is seen dotted with livid spots or patches, often proceeding to ulceration, while, in several parts of the tube, the diameter is probably found to be considerably diminished or contracted, by a thickening of all the coats. It was probably the almost universality of these appearances, that induced the French school of Broussais to locate the cause of fever in the intestines, and therefore to treat it simply as inflammation of the bowels. This state of the intestinal canal, however, is by no means confined to fevers, or even to fevers and dysenteries. I have before me, dissections of cases of almost every variety and form of disease, conducted in large military hospitals, where a great variety was afforded, and in almost all of them, this morbid appearance is noticed.

In a well marked case of pulmonary consumption lately under my care, and in which, the opinions given by physicians of the first eminence in London, were but too well verified by the fatal result; though colliquative night sweats, which had long distressed and exhausted the patient, ceased about three months before the fatal termination of the case, and were succeeded by a

colliquative diarrhœa, equally distressing, or more so, and equally baffling all our remedies. A few weeks before death, aphthous ulcerations appeared in the mouth and fauces, which gradually grew worse, and towards the conclusion of the case, deglutition was rendered dreadfully painful, from the ulcerated state of the fauces and œsophagus. A day or two before the fatal termination, pure blood was voided by stool. Examination after death did not take place, but it is obvious, from the discharges of blood by stool, that the ulceration had extended into the intestinal tube. It is scarcely necessary to add, that purulent expectoration, and the other usual symptoms of pulmonary consumption, were also present. I only notice the case to shew that post-mortem examination would probably have disclosed ulceration among the intestines.

About the same time, an officer in the service of the East India Company, came under my care, shortly after his return from India, whence he had returned on account of his ill health, after a long period of service. During the two last years of his service there, he suffered from frequent attacks of dysentery, and his health generally had been so much impaired, that his medical friends had repeatedly advised him to return to Europe; but filling a lucrative and important appointment, to which he had attained after a long course of service; having besides a large family, and relying on a constitution originally good, he deferred returning to Europe as long as possible. When I first saw him, he had aphthous ulcerations in the mouth and fauces, accompanying the dysentery. Having taken mercury on his passage home, the aphthæ might, in some manner, be attributable to that medicine; but there was also a probability that the ulceration extended downwards to the intestinal canal, by continuity of membranous surface. He had himself witnessed the fatal termination of a case on board ship, on his return to Europe, where the symptoms had been somewhat similar to his own, and where a post-mortem examination, which he also witnessed, shewed the ulceration to have extended along the intestinal canal. It could be seen that this circumstance had made an impression on his mind. Still, having returned to Europe, he appeared to get the better of his fears. Under treatment, the ulcers of his mouth and fauces entirely healed, and the dysenteric symptoms appeared to give way. In fact, he was so much better, that he undertook a journey to Bath and Clifton, certainly without my concurrence, and contrary to the wishes of his friends. In a few months afterwards, he returned to Cheltenham, as it appears, in every respect worse, and I happening to be absent from Cheltenham at the time, he put himself under the care of a medical friend of mine. He continued to get worse, and, at length, sunk under the disease, with symptoms of absolute exhaustion. Post-mortem examination disclosed extensive ulceration among the intestines.

It would be easy to multiply cases in which this morbid appearance was found after death, but as the object of this paper

is not to detail the results of post-mortem examinations, but to enquire how far, and in what degree, such examinations ought to guide our practice, the cases I have introduced may be sufficient for all the purposes of illustration.

In the first case which I have detailed, it is obvious that the intestinal ulceration which took place towards the fatal termination, was merely a breaking up of one among the various tissues of the body. That the principle of vitality which supports organization, had been gradually exhausted in the intestines, as well as in other parts; and consequently, that few, if any, practical precepts can be deduced from this physical manifestation of decreasing vitality. In deducing practical precepts from morbid appearances, it is necessary from effects to ascend to causes; but the causes which produced these physical lesions of structure, had been probably applied long anterior to the period at which the physician is usually consulted. The practical physician, however, is obliged to prescribe for things as he finds them, and although his knowledge on morbid structure may enable him to conjecture with tolerable accuracy what may be the pathological state of his patient, still the treatment which might have been useful in preventing these physical lesions, may be injurious or inadmissible when they have once taken place.

In the second case which I have introduced, the ulceration was the effect of long-continued irritation of the bowels, in fact, of a dysentery of long standing; but that dysentery was produced by causes which had long before been applied to the system, and to which the patient had been long exposed. Marsh exhalations, and other atmospheric influences in a tropical climate, together probably, with irregularities of diet, were the original exciting causes, which, by occasioning great irregularities in the distribution of the blood, and frequent congestions of it about the central organs, and other internal viscera, at length produced that state of the intestinal tube of which the dysentery was a manifestation.

The question which has been so often discussed, and which is still under discussion, that is, whether ulceration of the intestines admits of being healed, and what ought to be the remedies employed, suggested itself to me on seeing this patient. I recommended a light and unirritating, but nutritious diet; warm baths; warm clothing; frictions of the surface of the body, and of the extremities, with some diaphoretic medicine at night, generally Dover's powder, occasionally varied by some other opiate. In fact, by endeavouring to direct the circulation into the extreme vessels, I attempted to remove internal congestions; occasionally, mild aperients were given. Decoction of sarsaparilla was also taken. Under this plan of treatment, the ulcers of the mouth and fauces healed, and as the dysenteric symptoms seemed to yield, pari passu, I ventured to predict a favourable termination. The result did not realize my prognosis, but then, the patient did not follow the advice I had given, which was not to run the

risk of exposure to cold, but to remain quiet during the approaching winter. A medical is like a political prophet; if his advice be not followed, his opinions cannot be shewn to have been erroneous, and therefore, as far as this case is concerned, we may say with reference to the question above mentioned, "adhuc sub judice lis est."

Nearly analagous to ulceration of the intestines, may be considered those morbid accretions and morbid thickenings of the abdominal viscera, which sometimes present themselves to the pathologist in his post-mortem examinations, and generally occasion surprize that so much disease could have existed in such vital parts, consistently with the functions of life. I have seen cases in which the whole of the floating viscera of the abdomen constituted one confused mass, the several convolutions of the intestines adhering to each other, and in other parts, to folds of the mesentery and omentum, by condensed layers of coagulable lymph; and on disuniting or forcibly separating the agglutinated folds, particularly of the omentum, pus, to the quantity of several pints, has become effused over the surface of the intestinal mass. Such thickenings, and adhesions and confusion of structure, must have been the result of several successive attacks of abdominal inflammation. Indeed, in some of the cases to which I allude, I knew it to have been so, as the parties had been frequently admitted before with enteritis, into the same hospital in which the fatal termination ultimately took place, and in which the post-mortem examination was conducted.

I am aware that an ingenious writer, Dr. Baron, has brought forward and supported with considerable ability, a theory of abdominal tumours, different from the explanation of them which I have here attempted. But the tumours which Dr. Baron describes, may be different from those which I have seen. If I recollect rightly, and I write from memory, Dr. Baron considers the tumours which he describes, as structures possessing an independent vitality; as constituting morbid masses, which are merely the developement, by a natural growth, of embryo morbid structures, and not the product of inflammatory, or other diseased actions. This theory has also been applied to pulmonary tubercles, and with at least as much appearance of plausibility and probability; but among many objections against the theory which might be suggested, I shall here mention but one. That it would appear to be a species of anatomical fatalism, as if particular parts of the body, at the period of their physiological formation, were predestined to pass through the several stages of inflammation, agglutination, and suppuration, independent of surrounding structures. The effect of such a theory on the physician's practice, must also be, to render it inert, and to render his prognosis gloomy; for if we believe the disease to have existed ab initio, in a structure possessing an independent vitality, and the natural developement of that structure afterwards to be merely the developement of that disease, we must despair of finding

a remedy. I have said that the almost universality of abdominal congestions observed in post-mortem examinations, was probably the cause why the French school referred the seat of fever to the abdominal viscera, and treated it by leechings and by diluents, without end and without measure; simply as abdominal inflammation. The same observation of abdominal congestions, had introduced into the British army the practice of copious blood-letting in fevers, long, I believe, before the doctrine of the French school was promulgated. The late Dr. Jackson, than whom there could be no abler nor more zealous officer, nor more philanthropic physician, was the great originator and advocate of this practice. His views, however, were different from those of the French physicians, as his object in the copious abstraction of blood, which he recommended, was to prevent those congestions in the abdominal viscera, which post-mortem examinations had shewn him to be the usual effect of fever. With the same view he gave drastic purgatives, to increase the action of the abdominal vessels, which, in the French theory of local inflammation, would be considered dangerous or inadmissible. Nothing can shew more clearly the difficulty of deducing practical precepts from pathological facts, than that the same morbid appearances should have led faithful and accurate pathological enquirers into modes of practice so very different; for although the detraction of blood was common to both parties, one of them considered strong and frequent purgatives as even more necessary than bleeding, while the theory of the French physicians must have prevented altogether the use of purgatives, under an apprehension of further inflaming the mucous membrane of the intestines.

If we believe that congestions of blood in the abdominal viscera, are the cause of fever, and that such congestions may be removed by blood-letting, we are led to conclude that in every case in which we happen to be unsuccessful in our treatment, it must have been in consequence of not bleeding enough. And if we find, as we are sure to do, the usual congestions on post-mortem examination, we are confirmed in that opinion. In the next case that presents itself, we are induced to carry our bleeding farther, and perhaps with as little success. This is not speculation; I have seen it acted upon in practice, and, as I thought at the time, with injurious effect. With regard to the French system, I believe few who have seen much of fever, would venture to treat it without purgatives; and if success may be considered a test of superiority, I believe that a reference to the records of French and English hospitals, would shew that the comparative mortality by fever, is greatest under their system of treatment.

All theories are unstable, and of doubtful utility, but particularly where a system of medical treatment is raised on a theoretical assumption. In placing the cause of fever in inflammation of the mucous membrane of the intestines, it would appear that the

French school have substituted an effect, and that only an occasional one, for a constant and efficient cause. The causes of fever, whatever they may be, would appear to repel the blood from the surface of the body and extreme vessels, to the central organs and internal viscera; or what would produce precisely the same physical state of the circulation—the blood ceases to be impelled into the extreme vessels, as may be easily observed from the symptoms that characterize the beginning of fevers. Of all the means which our art affords us of impelling the blood in its languid course, through the large venous trunks of the abdomen, and consequently of removing abdominal congestion, purgative medicines are perhaps the most efficient, as they increase the peristaltic motion of the intestines, which produces nearly the same effect on the intestinal circulation, that the muscular contractions, occasioned by exercise do, on the venous trunks of the extremities. A theory, therefore, which necessarily precludes the use of active purgatives in fever, would deprive us of the most efficient means of relieving visceral congestions, and equalizing the general circulation.

In the last stages of all diseases, the circulation becomes languid in the venous system. That unknown power which presides over organization, and which we designate by the abstract term vitality, ceases first in those vessels which are most remote from the centre of the circulating system, and consequently the circulation continues in the arteries for some time after it has ceased in the veins. From this it necessarily results, that at the period of dissolution, an accumulation of blood takes place in the great abdominal veins and abdominal viscera generally. In this way I would account for the congestions of blood generally found in post-mortem examinations, and if such be their real cause, it is easy to see how little effect bleeding or leeching can have in preventing such accumulations.

I have here presented some of the difficulties which have occurred to me in founding rules of practice on pathological investigations. These difficulties ought not to deter us from such investigations, but they should render us cautious in drawing our conclusions. They shew us, I think, that a knowledge of morbid structure is not sufficient to guide our practice, without the aid of experienced observation, and a careful comparison of all attending circumstances; and that every case of disease that presents itself, should be considered, with reference to its own particular features, symptoms, and history, without any leaning to preconceived opinions or theories.

ARTICLE III.

Observations on English Hospitals.

BY J. K. WALKER, M. D., HUDDERSFIELD.

[CONTINUED FROM PAGE 229.]

It was in the middle of the last century that an infirmary was first established at Newcastle-on-Tyne, on the west side of the town, and there are few towns in which, from its commercial importance and increasing population, such a charity was more needed. Its situation, prospect, and external plan of architecture, were better than the interior arrangement, as the wards were large and crowded, and the whole house badly ventilated. So obvious were these defects, that in 1801, the sum of £3000 was raised by subscription to remedy them, and in 1803, the necessary additions and improvements were completed. When the infirmary was enlarged, an attempt was made to fit up a part of it for fever wards, but this was over-ruled, and in 1804, a house of recovery was built near the west gate, by voluntary subscription. In a populous and opulent district, where ample means are attainable for their support, there can be no doubt of the propriety of establishing two distinct and independent institutions, and such, in fact, is the case, in most of the principal towns of the empire; but in smaller towns,* the annexation of distinct wards, with a separate entrance, has been usually resorted to. In all such cases, every security is provided against improper intercourse, No fever patients or their nurses are suffered to go into other parts of the house, and none of the infirmary patients are allowed to visit the fever wards. In very large towns, however, such as Leeds, Manchester, &c. a division of the two has been adopted, and both have met with adequate support. The extent of ground belonging to this infirmary, exceeds 5 acres. There are 21 wards, and about 120 beds, and the average annual expenditure exceeds £2,500. The number of in-patients in one year is about 1000.

Second only to this in importance, is the Dispensary, which was established in Pilgrim-street, in 1777, but which has since been removed into Low-friar-street, where a suitable building was purchased, and fitted up by the governors of the institution. In 1810, it appears, that 56,285 patients had been admitted since it was first opened.

Prior to the establishment of the House of Recovery, typhus very commonly prevailed in this town, especially in the abodes of the poor; but since its erection, the disease for which it was founded, never filled it before the year 1816.

The Salisbury Infirmary is indebted for its origin to the munificence of the late Lord Feversham, who bequeathed the sum of

* This is the case with the new infirmaries at Derby and Chichester.

£500. to the first charity of this kind which should be established in the county of Wilts. The present fabric was built in 1766, at an expense, at different periods, of nearly £8000. and contains about 80 beds. The number of in-patients annually amounted to about 700, and the annual subscriptions to above £1,200. and the expenditure for the same period, to about £2,200. The charitable donations, &c. of the first 37 years, exceeded £44,000. and and the number of patients, (in and out,) admitted within the same time, was above 25,203.

The Stafford County Infirmary stands in the Foregate, in the north road. It was finished in 1772, and contains 13 wards, and about 75 to 80 beds. The average annual expenditure nearly equals £2000. and the annual amount of in-patients is nearly 700. In the year 1815, a second Infirmary was built in this county, at Newcastle-under-line.

The County Infirmary at Gloucester was built by subscription, in 1761, and at the period of its erection, was considered as commodious and complete a structure of the kind, as any in the kingdom. In one of your late numbers, it is described "as a roomy, plain, strong, and useful building, every way adapted to the design, insomuch, that were it rebuilt, it could not be improved in contrivance, nor application, nor propriety of particular offices, of which there is not one too many, either below or above." The rooms in general, and the wards in particular, are very lofty, the lower being 15, and the upper 14 feet high. The number of beds were about 120, and the average annual expense, £2800. and the annual receipts from subscriptions, and the interest of funded property, equal about the same sum.

Of the medical charities of the town of Birmingham, your Journal is so full of information, that it is unnecessary for me to say more, than that a general hospital was commenced there in the year 1766. Though the walls of the building were then erected, the completion of the design was suspended for 12 years, when, by the liberality of the inhabitants, this benevolent project was finally consummated. In the year 1790, the building was augmented by two wings, and since that time, other alterations and improvements have been carried into effect, with a view to the further accommodation and comfort of the sick poor. The extent of ground allotted to this charity, is about $2\frac{1}{2}$ acres, and the number of beds about 160. The average annual expenditure is about £3600. In the report now before me, the annual expense is £5154. but of this, more than £1400. is to be deducted for alterations and repairs of the building, and for ventilation and steam apparatus. In the year 1779, the number of in-patients was 225, and of out-patients, 304, and the annual subscriptions £1041. In 1824,* the number of in-patients was 1356, of out-

* It would be inexcusable not to mention that Birmingham has been among the first to adopt the system of "Self-supporting Dispenseries," and the result of this mode of medical relief, has been such, as to warrant a trial of it in other populous districts.

patients, 2745, and the annual subscriptions, £1837. At the anniversary in 1803, the plan of the Birmingham Humane Society, instituted August 1790, for the recovery of persons apparently dead from drowning and other accidents, was attached to this charity. To these should be added a Dispensary, instituted in the year 1808, which has fully approved its utility to that numerous class of diseased poor, whose cases admit of most effectual relief in the bosom of their own families. Judging from the example of Liverpool and Manchester, additional institutions of this nature will be required to meet the wants of so large a population, as it appears from the reports of the Liverpool dispensaries, that nearly 30,000 sick poor annually receive relief at these charities, exclusive of the patients at the infirmary; and from the present scale of admissions at the Manchester dispensaries, an almost equal proportion of applicants is now receiving relief there. The profession at Birmingham, in accordance with the spirit of the times, and the examples of Liverpool and Manchester, have succeeded in the formation of a school of medicine and surgery. The utility of such schools has been most amply proved by the evidence* of the secretary of the Apothecary's company, to the committee on anatomy, during the last session of Parliament. It is only necessary to know the names of those gentlemen who have undertaken the duty of lecturers in the different departments of medical study, to feel assured, that those duties will be discharged in a manner that will be creditable to themselves, and beneficial to their pupils.

The Norfolk and Norwich Hospital, a spacious brick building, stands without St. Stephen's Gate, and was erected in 1772, by voluntary contributions, at the expense of £13,323. 8s.; a new wing, which was added in 1802, completed the original plan, and according to the report now before me, not less than £17,898.11s.4d. (exclusive of £5,511. 16s. for furniture, linen, &c. for the general use of the hospital,) have been expended from the commencement, on the building alone. By the same report, I find among the receipts, the prodigious sum of £26,037. in legacies to this munificent institution, from the year 1770 to 1826. The extent of ground is about 4 acres, and the number of beds about 100. The patients admitted from 31st December, 1825, to 31st December, 1826, are 683 in, and 265 out-patients, making a total of 948; and there remained on the books 92 in and 269 out-patients. Ten patients during the year had undergone the operation for the stone, *nine of whom were discharged cured;* and 164 accidents were admitted during the year, of which, 86

* "No young men," says Mr. Watson, the secretary, "come before the court better qualified in every respect, than those who have been *entirely educated* at Manchester," where excellent lectures in every branch of medicine are given by competent teachers, and the Manchester infirmary affords, under the physicians belonging to it, most ample opportunities for the acquirement of practical knowledge.

were discharged cured. The total of in and out-patients, from the commencement, was 42,367.

The first stone of the Nottingham Infirmary was laid on the 12th of February, 1781, at the south-east butment, accompanied by a series of silver coins of the last reign, and with a brass plate, inscribed as follows :

"General Hospital near Nottingham; open to the sick and poor of any country. The Corporation gave the ground for the said hospital."

On digging for the foundation, some human bones were found, with a sword and target, broken spears, &c. It was built upon the spot on which the unfortunate Charles first fixed his royal standard.

The building consisted of a centre, two advancing wings,* and two ends, having 13 windows in a range. It is two stories high, most airily situated on all sides, and surrounded with pleasant walks and gardens. From the south-east front, a most extensive prospect of the vale of Belvoir presents itself. Subsequently considerable additions have been made, and two spacious and airy *day rooms*, four additional wards, a more commodious shop and store room, and several other conveniences, have been obtained. In all these additions, many useful improvements were carried into effect, particularly in the mode of ventilation and conveyance of water. The benefactions to this excellent charity have been very munificent, amongst which, one individual alone subscribed the sum of £10,000. 3 per cent. stock.†

In February, 1812, there were 49 in-patients, and 309 out-patients, then on the books. March 25, 1824, there remained on the books 44 in-patients, and 376 out-patients. The number of in-patients admitted since the first opening, in September 19, 1782, to March 25, 1824, was 14,827 ; of out-patients, 40,099. Total of in and out-patients, 54,926. Of this number, 6,020 were admitted on sudden accidents, without any recommendation ; and there had been, since the opening, 228 amputations, 11 trepanned, and 80 cut for the stone. The average number for the year, was 53 in, and 379 out-patients ; and the amount of in and out-patients for the whole year, about 1860 ; and the average annual expenditure, about £1800.‡

* The addition of a wing to the original building, was made with a view to meet the wants of the adjoining county of Derby, which were daily increasing ; and as an appropriate acknowledgement of the distinguished liberality of the gentlemen of that county, in aid of the hospital.

† A similar sum was left by the same individual to the Sheffield and Derby Infirmaries.

‡ Another charity which reflects equal honour to the town of Nottingham, is the Lunatic Asylum, both for paupers and for those who can pay for admission. It is erected upon an airy site, at a very short distance from the town. Its general plan provides separate and distinct wards for male and female lunatics, distributed into classes, as well for the convalescents as incurables ; and also

The Infirmary at Derby was begun during the year 1807, and from the elegance of its structure, and the science displayed in the interior arrangement, it has been often referred to as a model for similar establishments. It is not possible, however, to give a detailed account of the various peculiarities which distinguish this edifice, in a paper like the present, and those who are anxious to possess full information on this subject, will do well to consult a work edited by an eminent engineer,* who has not only explained, but illustrated his principles, by numerous engravings. The committee appointed to manage the erection of it, advertised for plans, but none of those sent in being approved of, the committee themselves at last undertook the task of forming a plan. The conditions required by the advertisement were, "that the building should be of stone; that it should contain fever wards, having a separate entrance, as far removed from the principal entrance as possible; that there should be convenient access to every side of the building; that the fever wards should contain 12 beds, and the whole 80 beds at least; and that, besides the usual conveniences of an hospital, it should have *two day rooms* for convalescent patients."

"The site of the infirmary is on the south side of the town. It consists of 3 stories; the basement story being a little sunk, and surrounded by an area, and the middle or principal floor being somewhat elevated, and approached by steps and a portico, supported by 4 doric pillars.† The first or basement story, contains the kitchen, laundry, cold and warm baths, with various domestic offices, and a stove-room, on a peculiar construction, by which the whole edifice is supplied with warm air; a steam-engine of

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separate and distinct airing grounds for the male and female convalescents. The building is five stories high, two of which are in the basement, but sufficiently light and airy for every purpose of health and comfort. Each story has a long and airy corridore, which leads to each range of cells, airy, cool, and comfortable, and affording accommodation to 56 patients. The patients form three classes; persons who can pay for their cure and maintenance, in proportion to their ability; persons admitted on the payment of very small sums; and paupers, for whom a certain rate is paid by the county.

By the 6th rule of the Nottingham Infirmary, the physicians and surgeons of the hospital are Governors during the term of their attendance, and exercise the same privilege as subscribers of 5 guineas annually. By the 47th rule, persons who are not objects of charity, but whose cases are of a nature to require chirurgical operations, or attendance for which they are unable to pay, may be received into the hospital, paying a *board of six shillings weekly*, in aid of the funds, and have the same diet as other patients, but the number of patients of this description, never exceeds two at any one time. They are required to make a reasonable remuneration to the physician or surgeon who attends them.

* The Philosophy of Domestic Economy, by Charles Sylvester, Engineer.

† Vide Mr. Sylvester's description, from which this is extracted.

two-horse power, with a very large boiler, and two spacious public baths, adjoining the vestibule. The second floor is devoted principally to the officers and servants of the establishment, but contains also two wards for sick persons, and six apartments for the reception of fever patients, which, with the corresponding portion of the upper story, are detached from the rest of the building, and have a separate entrance at the back, so as to render the fever department completely insulated. The upper story is devoted exclusively to patients, containing, besides general wards, *two large rooms for convalescents*, eight smaller apartments appropriated to acute cases, and an operation room, with two adjoining wards for patients after operation." The cold air flue, in the Derby infirmary, is about 4 feet square, 70 yards in length, and when the thermometer in the shade in the outer air, stood at 80°, the current, after passing through the flue, was found, where it entered the stove room, to be 60°, and was of sufficient force to blow out a lighted candle. Several years have now elapsed since this system of ventilation and heating has been adopted in this infirmary, and ample opportunity given to detect its defects. It is for the medical officers of this institution to state impartially to the world, the result of their observations on this system, especially its effects on the patients themselves, as the opinion of a very large proportion of the profession is still sceptical on this point. It is of the last importance, not only as it respects hospitals, but other public buildings, to have these objections removed, if unfounded, and to ascertain how far this plan of heated air is *suited for small apartments*. As this is a point of general importance, I shall be excused, I hope, for making a few further remarks. As the stoves for heating the air are of metal, and the surface frequently of a red heat, may not a partial decomposition of the metal take place, and its impurities be mixed with the air which comes in contact with it? It is well known, that in proportion as the air is heated, the respiration becomes more laboured, to acquire the same quantity of oxygen in a given time, and this effect has been felt even *by persons in health*. Besides, in all cases where heated air is used, it is subject to much variation, as both the quantity and quality must necessarily depend upon the person who attends the stove, and is liable to be heated to a great excess at one time, and to be equally depressed at another, by negligence or other causes. *Even the patients themselves*, however narrowly watched, *will open the aperture* for the *admission of warm air, to its full extent*, and close the opening where it should escape, and the temperature has, in consequence, been raised to a degree that has been attended with considerable danger to a certain class of patients. There are other reasons which, in my mind, militate very strongly against this ingenious system. I am not sure that some occult change does not take place in the composition of the air itself, when exposed to an intense heat. It is true, indeed, that a common fire place generates noxious principles, but these usually escape,

and do not ordinarily taint the whole volume of the surrounding air. It has also this advantage, that individuals may receive a comfortable degree of warmth, and yet breathe in a comparatively cool atmosphere. I am not sure, too, whether the very sight of a cheerful fire has not a beneficial tendency to some habits. After all, it is probable that a judicious combination of the two plans will be found preferable to either separate, a common fire place, and the introduction of air warmed from 10 to 12 *degrees* above the external atmosphere, before it is allowed to enter the ward, would secure a supply of pure air, and the same contrivance would serve to communicate warm air in winter, or cold air in summer.*

The extent of ground belonging to this charity is about nine acres, and the number of beds 80. The average annual expense exceeds £2000. and the total number of in-patients annually is nearly 700, and of out-patients about 1000. Though twenty years have not elapsed since the foundation of this charity, yet the amount of donations and legacies alone considerably exceeds £30,000. To the other sources of support common to most charities, should be added the very important aid derived from the periodical recurrence of musical festivals, than which, a more happy expedient could not be devised, of combining innocent amusement with the "rich luxury of doing good."

The infirmary at Oxford, called from its benevolent founder "the Radcliffe infirmary," is an elegant stone building, capable of accommodating above 100 patients. This charitable pile was erected by the trustees acting under the will of Dr. Radcliffe,† who, by his munificent bequest, at once subserved the cause of humanity, and the advancement of professional knowledge. The current expenses are defrayed principally by voluntary contribu-

* During the progress of the alterations and additions to the Manchester infirmary, the warming and ventilating became a subject of much discussion and enquiry with the medical board, to whom the matter was referred; and at a general meeting of the medical gentlemen of that establishment, consisting of six physicians and six surgeons, it was their unanimous opinion, that however advantageous *heated air might be for churches*, chapels, and other large buildings, it was not adapted for the purposes of an infirmary, where *the wards were comparatively small*, and they therefore recommended to the building committee to make use of the common fire place, with a Romford reflecting grate, together with ventilation under the ceiling of each ward, to carry off the vitiated air. The result has fully answered their expectations.

† By his will, he left his Yorkshire estate to the master and fellows of University College for ever, on trust for the foundation of two travelling fellowships; £5000. for the enlargement of the building of University college, where he himself had been educated; £40,000. for the building of a library at Oxford; £500. per annum for ever, "*towards mending the diet of St. Bartholomew's hospital.*" After the payment of these bequests, and some legacies to various individuals, he gave to his executors, in trust, all his estates in Buckinghamshire, Yorkshire, &c. &c. to be applied to such charitable purposes, as they, in their discretion, should think best.

tions, which annually amount to about £1700. A subscription of £3. 3s. per annum, or a contribution of 30 guineas or more at any one time, entitles a person to the privileges of a governor. The total of in and out-patients annually relieved, is about 1000, and the expenditure for the same period, exceeded, in the report before me, the sum of £2000.

The infirmary at Newcastle-under-Line, was built in 1815, to supply the wants of the sick poor in that part of the county of Stafford. The land (about 11 acres,) was purchased for £1200. and the expense of the building was £7600. making, along with other items, nearly £9000. The number of beds is about 45, and will probably be increased as the exigencies of the neighbourhood require it.

The infirmary at Colchester (whose population is about 15,000) was built so late as 1820. It comprises an extent of ground of 3 acres, and had, in the year 1823, as many as 8 wards and 62 beds; but the average number of in-patients for the first three years, was not more than 170, and of out-patients, 232. The expense of erection, &c. was £5,700. and the average annual expense was £1,012. The annual subscriptions were about £850. and the total amount of donations from the foundation of the charity, to 1824, is £6,277. from 250 donors.

The Taunton infirmary (North Devon,) was finished, and in a state to receive patients, in March, 1812. The land, about half an acre, was given for the purpose. There are 4 large wards, two for men and two for women; and two smaller wards adjoining the operating room, which is detached from the general hospital, at about fifteen yards, standing at the boundary of an intervening lawn. There are 26 beds in the larger wards, and four in the small, making 30 in the whole. The cost of erection was less than £3000.* and the average annual expense about £800. There are no regular fever wards, but the small wards adjoining the operating room, have, on emergencies, been used as such.

Still smaller than this, are the hospitals at Barnstaple and Bridgewater, which, however, are of the highest benefit to the sick poor of their respective neighbourhoods, and prove that such institutions, on a subordinate scale, are not so rare or so expensive as some are apt to apprehend.

In pursuance of these examples, other towns have followed in this honourable career of charity.

* In the report of the Taunton and Somerset hospital of 1824, is the following account of patients.

In-patients.		*Out-patients.*	
In the house, Oct. 25, 1823, ...	25	On the books, Oct. 1823,.....	89
Admitted since,.....	156	Admitted since,.....	579
	181		668

Total admitted since the hospital was first opened.

In-patients, ...	2007	Out-patients, ...	9836

In the towns of Bedford, Bury St. Edmunds, Chichester and Stamford, infirmaries have recently been erected, of such size as to correspond with the wants of the poor, and the resources of the district; and at the present time, similar institutions are about to be established at Carlisle and at Huddersfield.

From a want of proper documents from some of the above places, I am under the necessity of reserving for future insertion, a brief account of these charities, as well as some general remarks which have arisen from a review of the whole of those establishments which I have so imperfectly described. I regret that the limits usually assigned to papers of this kind, have prevented me from giving so circumstantial an account of each institution, as it was my wish to have done, for it is a subject that must come home to the feelings of every friend to the profession, to humanity, and the national honour. It is very desirable that the state of these charities should be published from time to time, the number of patients, expenditure, or any peculiarity in the economy and regulations of each institution. In no way can this be more effectually accomplished, than through the medium of your useful columns, which, I trust, will long continue to be the impartial organ of communication of our provincial hospitals, from which have emanated so many valuable improvements in our art, that for want of a periodical work like the present, have not obtained that attention their importance deserves.

[TO BE CONTINUED.]

ARTICLE IV.

Observations on the use of the STETHOSCOPE *in affections of the* LUNGS, *&c.*

BY CHARLES HASTINGS, M. D.

"SAVE me from my friends," is an adage which frequent experience confirms. In medicine, more especially, we have numberless opportunities of evincing its truth; for no sooner is any new mode of treatment, or means of investigating disease, submitted to public consideration, than its indiscreet advocates keep within no ordinary bounds of commendation of its value. Thus it often occurs, that when more deliberate cultivators of the science put the improvement to the test of experience, they are disappointed in its success, and consign it to unmerited oblivion.

It is my opinion, that something of this kind has happened with respect to the new method of diagnosis of diseases of the chest. I cannot even exempt Laennec, the illustrious discoverer of the stethoscope, from the imputation of attaching too much importance to the information to be derived from this source. He obviously inclines to rest his dependence on the results to be derived from the use of auscultation and percussion, to the exclusion of the important aid to be procured from a diligent study of the symptoms. If such a divorce of these helpmates to each

other were ever to happen, the discovery of the stethoscope would become comparatively of no avail, for it is only by a proper consideration of the knowledge to be procured from each of these sources, that a correct judgment can be formed of obscure pulmonary affections.

That I may convince the reader that the strictures above made, regarding the celebrated author in question, are not erroneous, I will submit a few remarks relative to the phenomenon of pectoriloquism, which may justly be considered as amongst the most important circumstances relating to the use of the cylinder in pulmonary affections.

Laennec considered that he had, in pectoriloquism, discovered a true pathognomic sign of phthisis pulmonalis. The only sign to be regarded as certain. There can be no doubt of its being a sign of great importance, for this phenomenon is invariably observed when the excavated end of the instrument is applied over a cavity of the lungs communicating with the trachea by means of a bronchial ramification, and the person to whom it is applied, pronounces audibly a given number of syllables. Thus far, then, we may predicate with safety, that where pectoriloquism exists, there is a corresponding cavity in that part of the lungs; and also that pectoriloquism is a pathognomic sign of phthisis, if the existence of an excavation in the lungs is necessarily accompanied by consumption; or if pulmonary consumption can never happen without the occurrence of a tubercular excavation: but I am prepared to argue that excavation of the lungs may exist without the coexistence of phthisis; and also that tubercular phthisis very commonly happens, unattended by any excavation, and consequently that pectoriloquism is not a pathognomic sign of pulmonary consumption.

We may first enquire, does the existence of a tubercular excavation necessarily imply the coexistence of phthisis? That, in infinitely the greater number of persons thus affected, consumptive symptoms also occur, the history of this disease unfortunately, but too decidedly, testifies. But are there not, I would inquire, individuals in whom the existence of such a cavity is consistent with tolerable health. In whom, by length of time, the excavation is emptied of all tuberculous or purulent matter, and becomes lined with a smooth polished membrane? Such persons regain their flesh, and sometimes enjoy years of health, and consequently cannot be said to be affected with phthisis, although, if we consider pectoriloquism a certain sign of phthisis, they must be considered to be so. Laennec has himself described cases of this kind, and other authors have confirmed his observations. The two following cases have fallen under my notice.

CASE I.

A man of 70 years of age, was admitted into the Worcester Infirmary, in September, 1813. He was subject to frequent vomiting, which had come on within a few weeks. He had been generally a healthy man, but said that when a boy, he was nearly dying of consumption.

Various remedies were tried, but without avail. The vomiting continued, and he lost flesh and strength. At the end of six weeks he died.

Examination of the body.—Abdomen.—An ulcer of considerable size was found in the pyloric end of the stomach, with much thickening of the coats of the organ. The other abdominal viscera were healthy.

Thorax.—There was very general adhesion, evidently of long standing, between the pleura covering the lungs and lining the ribs.

In the lungs there were several hard tuberculous masses, but not of a large size.

In the superior lobe of the right lung, we discovered a cavity large enough to hold a walnut. The membrane lining it was in appearance not unlike pleura. It communicated with the bronchia.

CASE II.

The other case of the same nature occurred in a woman, who reached the age of 60. She had, early in life, been much subject to cough, and always remained susceptible of cold. She died of continued fever.

There was in the left lung, in this instance, a cavity with a smooth polished lining. There were also, interspersed throughout each of the lungs, a few very hard masses, which had apparently been originally soft tubercles, but they had become so hard, as to afford considerable resistance, being something like, although not so hard as, the calcareous deposit we meet with in the cellular tissue of the lungs. The cellular membrane which surrounded these substances, was in a sound state.

But in addition to this cause of fallacy, in drawing a conclusion from the phenomenon of pectoriloquism, we are also exposed to a similar one, if we neglect a close attention to the symptoms, in case of dilatation of the bronchia. This occasionally happens, and gives rise to a similar phenomenon, although the pathological state of the lungs is very different from that of tubercles. We are forced, then, to the admission, that the existence of pectoriloquism in any part of the chest, by no means necessarily implies that the subject is affected with phthisis, and we are now also prepared to evince, that tubercular phthisis may be present, and pass on to a fatal issue, without ever being productive of tuberculous excavations of the lungs.

In the first number of this Journal,* I have distinctly shewn, that tubercular phthisis may exist without any excavation, and that it may become slowly fatal, although the tubercles never soften, by the gradual encroachment of these foreign bodies on the cellular tissue of the lungs, so as to obstruct the free circulation of blood through the organ, and to cause progressive emaciation and debility. In such cases, consequently, the phenomenon of pectoriloquism can never exist as a sign of phthisis. It is also not very uncommon to meet with instances of consumption, where the disease is of much more rapid course, owing to the conjunction of inflammation of the cellular or bronchial tissue of the organ, with numberless miliary tubercles scattered throughout the lungs, and in some parts coalescing, and forming large tu-

* Midland Medical and Surgical Reporter, No. 1, page 28.

berculous masses. In such instances, death often seizes its victim ere any excavation has formed, and of course before pectoriloquism can inform us of the tuberculous deposit. But although the cylinder, in such instances, does not offer us what Laennec states to be the certain sign, it is, under such circumstances, often exceedingly useful in pointing out that much mischief is progressing in the lungs. For the absence of the usual respiratory murmur in certain parts of the lungs, where it ought to exist, may justly lead us to pronounce, after sundry trials of the fact, that there exists some unnatural production in the substance of the lungs. In this way, the attentive auscultator may be enabled to form an opinion of the probable termination of consumption in its more early stages, long before excavations are formed, or the symptoms manifest any severe lesion of this important viscus. That such knowledge is of the first consequence to the practical physician, no sensible man will, I presume, deny. It may, in some cases, by pointing out the necessity of early treatment, enable us to avert the fatal issue of a disease, whose ravages annually sweep off a large portion of the population of Great Britain. I am certainly, from some experience, decidedly of opinion, that if our treatment of tuberculous consumption were more early and assiduously applied, we should not so often have to deplore the inefficiency of our art in this dreadful malady. I am aware that this statement is at variance with the conclusion formed by the enlightened discoverer of the stethoscope, but nevertheless, the observations that I have made, do not permit me to fall in with the opinion stated by him.

The following may be quoted, amongst others, as an instance where the early symptoms of consumption were checked, and the progress of the disease arrested by appropiate treatment.

CASE III.

Symptoms of Consumption and Tuberculous Deposition, terminating favourably.

M. G. aged 17, was received into the Worcester Infirmary, under my care, in September, 1820. She had for some time been out of health. She was affected with dyspnœa on slight exertion, and had a short, dry cough. Her habit of body was spare; the complexion delicate; the eye quick and penetrating; pulse 100, small; tongue clean; bowels regular.

By the stethoscope, the respiratory murmur was found to be puerile over the whole of the right side of the chest. On the left side, in several parts, it was puerile also, but towards the upper part of that side, there was a spot more than an inch square, in which no respiratory murmnr could be heard. Repeated examination with the cylinder confirmed this result. I accordingly, comparing the information derived from auscultation with the general state of health, concluded, that a portion of the lung on that side, was rendered impermeable to air, by the deposition of tuberculous matter.

The plan of treatment was in conformity with this view. I ordered a seton over the part. She was bled, and drank large quantities of decoction of sarsaparilla with Brandish's alkali for a considerable time. It gave me much grati-

fication to observe, that the plan succeeded in amending her general health. After remaining in the infirmary some time, she was discharged in tolerable health; but the respiratory murmur had not then returned in the spot before alluded to. I saw her two years afterwards, looking pretty well, but I had not an opportunity of examining whether there was still an absence of the respiratory murmur in the affected part.

In denying, then, that the stethoscope does, in all cases, afford a certain sign of phthisis, I by no means wish to impress the reader with an idea, that it may not, even in such cases, afford him important aid in unravelling the mystery which often hangs over this disease; but I would rather stimulate him to renewed exertions, that the discovery which has hitherto so auspiciously forwarded our acquaintance with the obscure affections we are now discussing, may be improved still farther, and at length lead to results in the highest degree beneficial to the healing art. But as it is very far from being my conviction, that any good can be hoped from overrating the dominion we have gained over disease, or the value of the means by which we investigate its approaches, I shall relate the following cases, in which the cylinder failed to give any accurate ideas of the change of structure that was going on in the lungs. In the first of these, a curious combination of morbid changes had taken place in the lungs; for there existed, at the same time, chronic bronchitis, tubercular depositions to a considerable extent, without any excavation, and emphysema.

CASE IV.

The subject of this curious affection was 66 years of age. He was of a thin spare habit, and had been ill with a cough for several years. He had, in fact, been considered asthmatical for five years before I saw him. During the whole of that period, he had rather lost flesh, and in each succeeding winter and spring, had suffered a considerable aggravation of cough, expectoration, and difficulty of breathing. I was first called to see him in March, 1827. He then complained of distressing cough, particularly at night, and he could not lie down in bed comfortably, for he no sooner attempted it than he was called up by cough. The expectoration was very various, but for the most part frothy; sometimes the frothy matter was mixed with a small portion of pus-like fluid; sometimes the pus-like matter was in great quantity, and occasionally, a tough mucus tinged with blood, was, after a severe fit of coughing, expectorated. The cough came on usually in fits, and was deep and sounding. The pulse was 80; tongue loaded; stools unnatural; urine pale and abundant; the breathing was laborious, and the muscles of the chest were called into unnatural action.

By percussion, the chest gave a louder than the natural sound, both on the right and left side. The stethoscope discovered an audible rattle in several parts of the chest. It was a wheezing noise, and did not resemble the mucous rattle of bronchitis; in other parts of the chest, scarcely any rattle or respiratory murmur could be heard. I could not, in any part of the chest, discover pectoriloquism. The result of this examination did not much improve my knowledge of the disease of my patient, and it certainly did not lead me to expect that

tuberculous disease had proceeded to any great extent. The result of percussion and auscultation, rather favoured the notion of emphysema, but the state of the symptoms was not explained by that view of the case. He lived about a month afterwards, and his death afforded me an opportunity of investigating the condition of the thoracic viscera.

On opening the chest, the lungs appeared larger than usual. On examining them more accurately, the air vessels under the pleura were found, for the most part, very much enlarged, and this gave the apparent increase of magnitude to the lungs. On pressing the lungs, the displacement of air was heard, not at all like the ordinary pulmonary crepitus. The pleuræ were not adherent. When the lungs were cut, air escaped, and then there came in sight numberless miliary tubercles, imbedded in the pulmonary tissue. By extending the examination over each of the lungs, the tuberculous bodies were every where found numerous; but in the superior lobes of each lung, they were particularly so, and in several parts they coalesced. The cellular tissue was rather inflamed and thickened. The mucous membrane of the bronchia was much inflamed and thickened. There was considerable dilatation of the bronchial vessels.

The abdominal viscera were healthy, excepting the liver, in which organ there was a deposition of tuberculous matter.

In this case, the cylinder and percussion failed in giving warning of the existence of a tuberculous degeneration of the structure of the lungs, owing to the very rare conjunction of extensive emphysema of the organ with the miliary tubercle, on which account no sign was afforded by the physical investigation, indicative of the real cause, that was slowly acting so as to destroy life.

The next case to which I shall call attention, is one where a considerable ulceration took place in softened lungs, so as to cause a cavity, which gave rise to the phenomenon of pectoriloquism, whilst, at the same time, there were no tubercles in the organ. The following is the outline of the symptoms.

CASE V.

On the 19th of August, 1825, I was consulted respecting a young lady, who had been for two months in a dubious state of health, from a very slight cough, with trifling expectoration in the morning, which had once or twice been tinged with blood. On the morning of my visit, she had expectorated some blood, unmixed with pus or mucus, and of a scarlet colour. Her parents were, on this account, under great alarm, as they had previously lost three children in consumption. There was nothing, however, in the general appearance of the young lady, to have given alarm to an ordinary spectator. She was rather full of flesh, and considered that she had rather gained than lost in that particular during the last two months. To an experienced eye, however, she had not a healthy look, for the countenance was rather bordering on the cadaverous, and the eyes were dull. The hands felt clammy, and there was an unaccountable listlessness in the young lady's manner. The pulse was 76; the tongue was clean, and the bowels were regular. I could not trace any feverish action during the twenty-four hours. The breathing was free, and a full inspiration caused no uneasiness. The catamenia were regular. In short, she declared, that

excepting the slight barking cough which attacked her in a morning, when at the toilette, she was in perfect health. She betrayed, nevertheless, much perturbation at the sight of the expectorated blood, and declared a firm conviction that the disease was similar to that of which her relations had died.

I examined, at this visit, the chest very particularly, and found that percussion produced a natural sound on each side. With the stethoscope, the respiratory murmur was heard natural on the right side, and no indication of any excavation of the organ. On the left side of the chest, however, perfect pectoriloquism was heard, on the front of the chest, between the second and third, and third and fourth ribs.

Some blood was taken from between the shoulders by the cupping-glasses, and I directed a mixture of infusion of roses and tincture of digitalis, to be taken every four hours. I also advised quietude and a milk diet.

In a few days, the spitting of blood disappeared, and this amiable young lady described herself in perfect health again, excepting that she had a slight morning cough, and trifling expectoration. She walked about without any hurry of respiration, and seemed anxious not to be considered an invalid. It was notwithstanding, but too evident, that the disease was formidable, for another examination with the stethoscope, established still more strongly my conviction, that there existed an excavation in the superior lobe of the left lung. The eyes also looked peculiarly languid, and the hands had a deadly clammy feel.

She went on with very little appearance of illness, and without losing any flesh, till the 15th of September, on the morning of which day, she coughed up about two tea-spoonfuls of dark-coloured blood, accompanied with a small quantity of pus-like matter. The pulse was 94. The breathing was not at all hurried, and there was not any heat of the skin. By appropriate treatment, this bleeding subsided, and did not return till the 28th of the same month, when a sudden exasperation of the symptoms took place. The breathing became hurried; the cough much more troublesome, and a considerable quantity of scarlet-coloured blood was expectorated. Various means were ineffectually tried to arrest the progress of the disease. The bleeding repeatedly occurred, and my patient died in the morning of the 8th of October.

Examination of the body.—No considerable emaciation had taken place. On elevating the sternum, nothing worthy of remark presented itself. On removing the lungs, they were found slightly adherent on the right side, but much more so on the left; on both sides the adhesion was high up, and in the direction of the axillæ.

The internal surface of the trachea was free from purulent secretion. The bronchia contained a small quantity of sero-sanguinolent fluid. On tracing the ramifications in the right lobes, the only appearances were a rather suffused state of the blood-vessels in some parts; the lungs of a soft structure, and the air-vessels throughout, pervious.

The general appearances of the left lobes resembled those of the right; but on the outer and upper surface of the superior lobe, appeared a cavity large enough to admit the half of a middle-sized orange, which had been prevented from opening into the sac of the pleura, by the adhesion of the pulmonary to the costal pleura. This cavity communicated freely with the bronchial tubes. Pus was searched for, but the slightest trace of it could not be found; nor was

there the slightest degree of hardness in the sides of this ulcer, indicative of the process of adhesive inflammation having been set up. On the contrary, the appearance was that of simple ulcerative absorption rapidly advancing.

The stethoscope here, although it forwarded my knowledge of the case, by shewing that a cavity was formed in the left lung, gave no real insight into its nature. Agreeably to Laennec's rule, that pectoriloquism is a certain sign of tuberculous phthisis, I concluded that my patient was so affected. Proceeding on this assumption, and being convinced that the mischief was confined to the superior lobo of the left lung, I came to the conclusion, that it was not impossible, as there was an absence of emaciation, and the symptoms were not at all urgent, that it might turn out to be one of those cases in which, from the quiet state of the symptoms, the lining of the cavity eventually becomes polished; but at any rate, I could not regard it as a case in which the disease would make a rapid progress. How vain, however, did my speculations prove! owing to the disorganization being of an entirely different nature to that which Laennec supposes the stethoscope discloses with certainty.

If the stethoscope had been, in this case, the true sign of tubercular phthisis, confined, as the diseased action was, to a part of the superior lobe of the lung, recovery might have been possible; and the fatal event would, at any rate, have been for some time deferred; but the cavity being occasioned by the generally softened state of the lungs predisposing to ulcerative absorption, and the ulcerative action being progressive, and not followed by any adhesive process, a number of blood-vessels were opened, which accounted for the occurrence of the repeated, and at length, fatal hæmorrhage.

The stethoscope, then, is not a certain test of tubercular consumption, as Laennec supposes it to be. Should we, then, cease to employ it as a means which may materially aid our attempts to develope the morbid changes that occur in the organs contained within the cavity of the thorax? Undoubtedly not. For there is scarcely an affection of any one of those organs which may not be, in some degree, made clear, by studying the physical signs that are afforded by auscultation and percussion. The object, therefore, of the preceding observations, is not to disparage the discovery, but chiefly to shew, that our dependence must not be too confidently placed in these signs, to the exclusion of a diligent study of the natural symptoms.

To relinquish the use of auscultation and percussion, because we have not hitherto, by their means, unravelled all the intricacies, and escaped all the difficulties, which beset us in investigating the obscure class of affections that we have been considering, would ill accord with that modest and patient research which should ever distinguish the philosophical inquirer, and should more especially belong to the votaries of a science, where so much is yet to be accomplished, and where every fact correctly ascertained and well applied to its elucidation, has a tendency to alleviate human suffering, by increasing our power over disease.

ARTICLE V.

Case of Ulcerated Stomach, with Remarks.

BY G. WALDRON, ESQ. SURGEON, BATH.

December 2nd, 1828, I was consulted by a Mr. Anthony, of this city, a man 50 years of age, who had, till within the last eight months, enjoyed an uninterrupted state of good health. During a long series of years, he travelled for a house in town, and had, with a view to obtain orders for his employers, taken more liquor than his inclination prompted, or his stomach would well bear; still that spell which makes the taciturn loquacious, it would seem, from the statement of my patient, makes also the cautious and wary tradesman less guarded and more liberal; this secret being discovered by poor Mr. A. led him on to lay the foundation of that disease which eventually proved fatal to him. When he applied to me for medical aid, I was struck by his altered appearance; his countenance was sallow and sunken; he was much reduced in size, and he complained of great debility. Some months previous to his applying to me professionally, I had seen him, and he then looked florid and healthy. At this period, his pulse was particularly feeble and compressible, on the slightest touch; he complained of an uneasy sensation at the pit of the stomach, and of frequent vomiting; his bowels were very irregular, and he had no appetite whatever for food, beer was the only thing which he coveted or enjoyed. I examined his abdomen carefully, and he complained of no particular uneasiness on pressure, neither could I detect any fulness or peculiarity by the touch. In the first instance, I ordered such medicines as were calculated thoroughly to evacuate the bowels; this being done, and still the sickness and uneasy sensation at the pit of the stomach continuing, also the weak and thready pulse, &c. I became more interested in the case, and more particular in my investigation of it. I now found that the sickness generally occurred from an hour and a half to three hours after he had taken food, at that period when the chyme would, in health, be expected to pass the pylorus. What he brought up by vomiting, was dark coloured and grumous, and more than commonly offensive. I enquired frequently if he experienced any pain at the stomach, but he always affirmed that he suffered no pain whatever, only an uneasy sensation, which nothing relieved but vomiting. I examined what passed from the bowels, and found the evacuations imperfect and scanty; he also stated, that for some length of time, he had not parted with a copious and round stool.

January 5th, 1829.—I now prescribed one grain of calomel, and four of extract of hemlock, to be taken twice a day; I directed 12 leeches to be applied to the pit of the stomach, afterwards a blister; also a saline draught in a state of effervescence, to be taken as an aperient; and an enema to be administered every night.

I pursued this plan till the 8th, but without the slightest apparent benefit. The pulse was now scarcely perceptible at the wrist, and his debility so great, that he could not stand without assistance; and being informed that some difficulty was experienced in the administration of the enema, I determined to examine the rectum myself, and with this view, I first threw up a large quantity of gruel by means of the stomach pump, and found that some mechanical obstruction did exist, which impeded its passage, and the gruel was forced back again with considerable violence; but a quantity of hardened fœces were brought away. I afterwards, with some difficulty, introduced a small bougie, one of the late Mr. White's; shortly after the introduction of the bougie, he expressed himself very much relieved, and the sickness at the stomach quite subsided. I increased the size of the bougie, and employed one of a harder nature than that of Mr. White's, and for a week or ten days, the amendment in my patient was very gratifying. I introduced the bougie every morning, and suffered it to remain a few minutes. As the sickness at the stomach had subsided, I ventured upon giving a pill with three grains of calomel, and eight of compound rhubarb pill, this, together with the use of the bougie, produced a very copious evacuation from the bowels, and the relief he experienced was really surprising, seeing the hopeless and reduced condition in which he lay prior to the use of the bougie.

January 26th.—He is now not so well, his pulse is very feeble, and his conversation quite incoherent. From this period till the day on which he died, he became quite insane, and was, with no small difficulty, confined to his bed; the strength which he evinced, seeing the state of the pulse, was unaccountable, and the power of his voice very great; the sickness never returned, and he lingered in this melancholy and hopeless state of delirium till February 10th, on which day he died. I directed leeches to be applied to the head, also a blister, cold evaporating lotions, &c. The bowels were kept open with castor oil, but from the time I discovered that his brain was affected, I discontinued the use of the bougie.

Sectio cadaveris, 48 *hours after death.*—I examined the body in the presence of Mr. G. Goldstone, surgeon, of this city. Considerable emaciation had taken place in the muscles of the extremities; on cutting through the parieties of the abdomen, an unusual depth of adipose matter was found. In the abdomen, the vessels of the small intestines appeared dark, and congested with blood. I passed a ligature in two points above the cardiac extremity of the stomach, and having divided the part between the ligatures, was proceeding to trace the stomach downwards to its pyloric extremity, when it broke, and extravasated its contents into the abdomen. I next separated the small and large intestines, following them downwards throughout their whole course. Upon laying open the stomach, the cardiac extremity appeared enlarged and thickened, and the pyloric was a complete mass of

disease; at that part where a conoidal opening is formed by the termination of the stomach projecting into the duodenum, an enlargement the size of a large duck egg was found; the stomach above this enlargement was ulcerated and thickened, and appeared as a pulpy mass; at the enlargement, the calibre of the part appeared to be nearly obliterated, and below it, the duodenum was ulcerated and thickened for several inches, and exhibited the same appearance of pulpiness, and was so fragile as to break upon the slightest force being used. On cutting through the enlargement at the pyloric extremity of the stomach, the centre exhibited a scirrhous hardness; in one part, there was a dark discolouration, similar to what is seen in scirrhous enlargement of the breast, prior to its passing into the ulcerative stage; on cutting into it, a dark coloured sanies escaped, which was imbedded in a tubercular cyst. The rest of the viscera of the abdomen exhibited no morbid appearance, excepting the colon and rectum, which were in several parts so much contracted, as to reduce the calibre of the intestinal tube to the size of the smallest rectum bougie. In the sigmoid flexure of the colon, these contractions were very apparent, and the fœces were with considerable difficulty made to pass these points, by pressing the finger and thumb above, and propelling the fœces forward.

When the colon and rectum were laid open, beginning above the left iliac region, the intestine appeared in many parts thickened and contracted; in other respects no morbid appearance was observed. In the head, the vessels of the brain appeared dark and congested with blood; the tunica arachnoidea was very much thickened, and had become dense and obscure; in different parts, especially on one side, deposits of coagulable lymph were observed; a larger quantity of fluid than what is common, was found in the ventricles; in other respects, the brain exhibited no morbid appearances.

Observations.—At the period when Mr. Anthony first consulted me, he did not complain of any pain in the stomach, neither would he allow that he experienced the slightest pain throughout the whole of his illness, only an uneasy sensation.

From the examination of the stomach after death, seeing how much it was disorganized, we might naturally have been led to expect pain, and that of no small severity. From such a state of the stomach, pain, on pressure, might also have been looked for, but was not experienced. Query? Might not the unusual depth of adipose matter which was found on cutting through the parieties of the abdomen, account for no pain being experienced on pressure, and no fulness or peculiarity being detected by the touch? At one period of his illness, the pulse was scarcely perceptible at the wrist; indeed, for nearly twenty minutes together, I could not feel the slightest pulsation at the right wrist; he laboured under constant hiccough and vomiting, and his situation appeared quite hopeless. I requested my friend, Dr. Simpson, to see him, and he gave a most accurate prognosis of

his complaint. Sir George Gibbes also was consulted, and advised his making trial of quicksilver, which he did, but Sir George also evidently considered his case hopeless. At this period, what he brought up by vomiting, was evidently stercoracious. Under such extreme symptoms, and seeing the state of the stomach on dissection, the relief which he experienced on passing the bougie, could not have been expected; one fact it clearly proves, viz. that the alimentary canal, throughout its whole course, possesses a remarkable degree of sympathy; and if we take it for granted that the disease in the stomach was the original cause, and the contractions in the colon and rectum were the effect, how shall we explain the modus operandi of a bougie in such an extreme case, and in such a disorganized state of the stomach, immediately allaying all irritation and sickness, and creating a great doubt in the mind whether the stomach were or were not actually diseased, or whether the disease were situated in the colon, and that a stricture existing there by impeding the fœces and occasioning constipation, and an inverted action of the bowels and stomach, produced the constant vomitings and other symptoms?

ARTICLE VI.

Cases of Otorrhœa Purulenta.

BY JOHN BURNE, M. D.

Licentiate of the Royal College of Physicians, of London; Honorary Secretary for Foreign Correspondence, of the Medical Society, of London; and formerly President of the Royal Medical Society, of Edinburgh.

[CONTINUED FROM PAGE 275.]

CASE I.—Chronic puriform discharge by the Meatus Externus and Eustachian Tube.

Eliza Waugh, aged 15, began to menstruate in the spring of last year, and has continued to do so irregularly.

She is constantly subject to an offensive discharge into the throat, which collects during sleep, and which she hawks up in considerable quantity in the morning as soon as she is awake. A discharge of the same character issues sometimes from the left ear, but it takes the direction of the eustachian tube chiefly.

She is affected with a deep-seated pain in the head, between the ears, and which extends in every direction; she complains of pain also in the left ear, particularly of a dull aching, now and then of a pricking character; at one time she is deaf with the left ear, at an other, the hearing returns, but is indistinct.

She is liable to frequent attacks of distressing pain in the left ear, and severe head-ache, which are accompanied with fever, and occasionally with vomiting, and are always preceded by a suppression of the discharge, attributed by her to having taken cold.

The nares are pervious, but small, which obliges her to sleep with her mouth open; the mouth, indeed, is never closed; the upper eye-lids droop, and the face is pale and sallow.

She suffers very much from most obstinately constipated bowels, passing a fortnight without a dejection, and never procuring one except by powerful medicines. This has tended very much to aggravate the affection of the ear and head.

A consultation with my colleague, Mr. Briggs, was held, to consider the propriety of perforating the mastoid process, but the disease was thought not to be far enough advanced to justify the operation. Injections have been used with little avail, and the attacks are relieved by leeches, &c.; but the greatest benefit has been derived from strict attention to the daily evacuation of the bowels, by which all her sufferings are surprisingly mitigated, and the attacks rendered much less frequent. The disease, however, is still going on.

CASE II.—Otorrhœa, with an attack of Inflammation at the period of the carious perforation of the Mastoid Process, and formation of Abscess behind the Ear. Fatal; the case mistaken for an Idiopathic Phrenitis.

The patient was a young lady about 25 years of age, and had been ill already ten days, when I was desired to see her in consultation. She was supposed to be labouring under an idiopathic phrenitis, and had been bled copiously and repeatedly. The attack commenced with head-ache and bilious vomiting.

The prominent complaints were a violent throbbing pain in the head, with tenderness of the scalp, on the right side, which made her unwilling to lie upon it; great pain also in the middle of the arms. She had a pale face and a vacant look; the pupils were dilated, and light thrown upon the eyes made them ache; when the eyes were closed, she was disturbed by frightful images, which entirely prevented sleep; the tongue was white, and at times she had been sick, and had vomited; the pulse numbered 140, was compressible, and the artery yielding to the impulse of the heart, and she had profuse perspirations. There was tenderness in the præcordia, and the bowels were not satisfactorily open; at this time she was sensible, but delirium, unaccompanied with restlessness, prevailed through the night.

The case appeared to me exceedingly ambiguous; it was evidently not an idiopathic phrenitis, and as there was much tenderness in the præcordia with a confined state of the bowels, I thought it possible the condition of the head might depend on deranged function of some of the abdominal viscera, and therefore that a correct diagnosis could not be formed until the bowels had been properly evacuated. To this end aperients were prescribed, which produced on the next day some slight general relief; but all the head symptoms continued.

Being still undecided as to the nature of the complaint, I proceeded to examine the head, and discovered a large abscess

behind the right ear, covering the mastoid process and inferior angle of the parietal bone. All doubt was now cleared up, and on enquiry, I found she had been subject to pain in that ear, and also to purulent discharge from it, so that it was evident the disease was an inflammation, supervening an otorrhœa at the period of the carious perforation of the mastoid process, and formation of abscess behind the ear. The abscess was opened by the surgeon, and discharged a small tea-cup full of most offensive matter, indicating disease of the bony structure; she was directed to take tonics, and an anodyne at bed time.

On the following day, she expressed herself as having passed a more comfortable night, and as suffering much less pain in the head; but notwithstanding this mitigation of suffering, it was too visible that the powers of life were fast declining. She had now the aspect of a woman exhausted by uterine hæmorrhage, the face being a pale sallow, exsangueous and rather bloated; the conjunctiva blanched, and the eyes glassy; the pulse had decreased in frequency, from 140 to 128, but its stroke was of a mock fulness, short and unsteady, and very compressible. After this, the delirium became constant, the respiration grew hurried, the circulation feeble, and she expired at the end of two days. Inspection of the body was not permitted.

CASE III.—Otorrhœa Purulenta. Caries of the mastoid cells; carious perforation of the mastoid process, with abscess; and carious perforation of the temporal bone, with effusion of pus between the dura mater and the cranium; and sero-purulent effusion between the dura mater and the arachnoid.

Mr. ——, aged about 40, a patient of Mr. Finch, of Greenwich, had been subject to puriform discharge from the left ear, for upwards of 15 years, during the latter part of which period, he suffered intense pain in the head, particularly on the affected side, and when, from accident or otherwise, the discharge was checked, there supervened an inflammation of the membranes of the brain in the neighbourhood of the corresponding temporal bone. These attacks of inflammation, which were numerous, always placed his life in danger, and eventually destroyed him. During the course of the disease, there took place paralysis of all the muscles of the left side of the face, supplied by the left portio dura or facial nerve, and of course amongst them of the orbicularis oculi, by which he was deprived of the power of closing the left eye; and a short time before death an abscess, attended with very severe cerebral symptoms, shewed itself behind the ear, at the base of the mastoid process. This being laid open freely by incision, by Mr. Callaway, discharged a quantity of ill-conditioned offensive matter, which, by the introduction of a probe, was found to proceed from disease of the mastoid cells. Afflicted, as this patient was, for several years preceding his death, he consulted many eminent men, in the hope of obtaining relief, but all the means prescribed were

fruitless. An aurist advised the use of astringent injections, which had the effect of suppressing the purulent discharge, but at the same time increased the cerebral symptoms very seriously, and of course could not be persevered in. It seems the nature of the disease was not manifest to most of those whom he consulted; one looked upon it as diseased antrum, and directed a tooth to be extracted, and this failing to be of service, the extraction of another was proposed, but so conscious was the patient of there being no connexion between the antrum and the disease, that he declined giving his consent. Almost all the ordinary remedies, as leeches, blisters, setons, and so on, had been prescribed in vain.

Sectio cadaveris, 48 *hours after death.**—The body emaciated to the second degree, having been corpulent.

The dura mater visible on the removal of the upper part of the cranium, was sound, but blood oozed very freely from the torn vessels. The right hemisphere presented considerable arborescent vascularity of the pia mater, with some serosity in the furrows of the convolutions; but the veins between the convolutions not larger than is natural. At the fore and inner part of the anterior lobe of this hemisphere, close to the falx, was some yellow consistent albumen in one of the furrows of the convolutions, and exactly opposite to it was a similar effusion, in the anterior lobe of the left hemisphere. Portions of consistent albuminous effusion were also seen under the arachnoid, in the left temporal fossa in the fore part of the middle lobe of the left hemisphere, in the tractus opticus, on each side of the tuber annulare, and on the inferior surface of the right lobe of the cerebellum. The left hemisphere presented an arborescent vascularity greater than the right, and the veins between the convolutions were larger and fuller.

The substance of the brain was preternaturally firm, especially the left hemisphere, which was firmer than the right. In the medullary substance the bloody points were very numerous, about the junction of the middle and posterior lobes; and in the centrum ovale, the vessels in the medullary substance were remarkably large, and conspicuously so on the left side.

In the ventricles the veins were of an unusual size, and there was a general duskiness of the corpora striata and thalami; the commissura mollis was wanting, the thalami being in imperfect apposition; and at the anterior and upper part of each thalamus, was a tuberosity, softer on the left than on the right side.

The left lobe of the cerebellum was soft, though not entirely disorganized at its anterior inferior part opposite the internal auditory foramen; the convolutions at this part were unattached to each other, and the pia mater was beginning to ulcerate. At the base of the skull, in the neighbourhood of the internal audi-

* I am much indebted to Mr. Finch and Mr. Callaway for allowing me to be present at the inspection, and for the history of the case.

tory foramen, was a fœtid sero-purulent effusion, to the extent of six drachms, part of which flowed in the direction of the vertebral canal.

The dura mater, at the base of the skull, was sound on its cerebral surface, except that it was of a darker colour over the petrous portion of the left temporal bone, than of the right.

The diseased temporal bone was taken out, and when the soft parts had been removed by maceration, it afforded a fine specimen of the carious disorganization which accompanied the chronic puriform discharge from the ear. The disorganization had entirely broken down the mastoid cells, converted them into one large excavation, extending in the direction of the mastoid process, which was perforated at the root on the inside, the point where the abscess formed. The caries had also enlarged very much the natural opening between the cells and the tympanum, and had involved the aqueduct of Fallopius; it had also penetrated the vestibule and cochlea, thus forming a communication with the internal auditory foramen, by which the matter had found its way to the base of the skull, as above described. The roof and posterior wall of the mastoid cells were perforated by the carious disorganization, by a number of small holes, particularly the posterior wall, which forms the fossa for the lateral sinus, so as to give this part of the bone a worm-eaten appearance; and through these foramina, matter had passed and burrowed between the dura mater and the cranium.

CASE IV.—Otorrhœa. Caries of the tympanum and mastoid cells. Ulceration of the dura mater, and extensive disorganization of the right middle lobe of the brain. Fatal, from an attack of inflammation.

Harriet Raynham, aged 19 years, of delicate health from infancy. Eight years ago she became affected with purulent discharge from the external meatus of the right ear, which was accompanied with severe pain on the corresponding side of the head, and about the occiput. The pain was very much aggravated when, from any cause, the discharge was diminished, and particularly when it ceased, which happened not unfrequently.

Dr. Wilmot saw her for the first time on the 29th September; she then laboured under a distracting pain on the right side of the head, about the occiput; the habitual discharge from the ear had ceased suddenly; the pulse was feeble and oppressed, and the tongue white and loaded; the stomach was irritable, and ejected a greenish fluid; the aspect of the face was jaundiced, and the strength much exhausted.

Next day the bowels acted freely, and the discharge from the ear returned, to a profuse degree; she was in a state of high excitement, apparently from re-action. Leeches were directed to be applied to the temples and behind the ears. From this period she grew worse, and, on the 5th day, the pulse exceeded 120, and the skin was clammy. Leeches were again ordered to

the temples, during the application of which she turned upon the left side and expired.

Sectio cadaveris.—The dura mater was found to be detached from the petrous portion of the temporal bone, and on the posterior face were several small carious perforations which communicated with the mastoid cells and tympanum. The middle lobe of the right hemisphere of the brain was extensively destroyed by ulceration, and presented an excavation, like abscess, which contained about one ounce of offensive pus; the walls of this excavation were very dark and sloughy, and the surrounding medullary and cineritious substance softened.

The temporal bone being removed for the further examination of the ear, it was discovered that the membrana tympani had been destroyed, and the incus and os orbiculare carried away by the suppuration, the malleus and stapes still remaining. The tympanum and mastoid cells formed one carious excavation, which communicated with the vestibule and semi-circular canals. The cochlea appeared sound.*

ARTICLE VII.

TOXICOLOGY.

Two Cases of Death; in one instance, caused by the individual wilfully taking a large quantity of Arsenic; in the other, by accidentally swallowing Sulphuric Acid.

BY MR. WILLIAM HEBB, SURGEON, WORCESTER.

"The best mode of obtaining and extending Medical and Surgical Knowledge, is to pay that strict attention to diseases which qualify us to note even the slighter shades of difference that distinguish them from each other."

Cases of this description are unfortunately of such frequent occurrence, that I should scarcely have deemed these sufficiently important to occupy the valuable pages of the "Reporter," had they not been attended with some circumstances, which will perhaps induce its readers to consider them interesting, and did not the relation of them also give me an opportunity of making one or two observations on the subject of poisons generally.

It is evident, that in treating these cases, our success must, in a great degree, depend not only on the promptitude with which we administer our remedies, but also on the precision with which we adapt them to the particular poison whose injurious effects we may be anxious to prevent or diminish. And although a due consideration of the leading symptoms present in these cases, may generally enable us to determine pretty accurately what class of poisons has produced them, yet we are frequently quite

* The details of this case were kindly sent to me by Dr. Wilmot, through my friend Mr. Bryant.

incapable of deciding what individual of such class we are called upon to counteract, and are obliged to rely for this very important information, on the doubtful, and sometimes wilfully erroneous statements of the unfortunate patient, or his friends. I am not ignorant that many poisons of the same class, as some of those of the corrosive, admit of similar treatment, yet, as it is certain some of these even, have their peculiar antidotes, so, it would be highly desirable if we could immediately discriminate between the symptoms produced by each, and thus learn to apply our remedies with a greater prospect of success.

Were it necessary to adduce further argument, to prove the propriety of observing more carefully the various symptoms caused by the noxious substances, which are so frequently taken into the stomach, and thus produce death, I might remark on the conflicting testimonies given by medical men in courts of justice, when their opinions have been desired as to the probability, or otherwise, of a certain set of symptoms having been occasioned by some particular poison, for there is scarcely a trial on record, in which their evidences have not been directly at variance on this point. Such differences of opinion on so important a subject, and one which would seem to admit of an uniformity of reasoning, cannot fail very much to diminish the confidence of the public in our knowledge of these cases, and also to lessen the respect with which our evidence ought always to be received in the courts of law. And nothithstanding I am ready to admit, that many valuable works have lately been written on this subject, I must confess, it has appeared to me, that their authors have been more anxious to give a general view of the phenomena produced by the several classes of poisons, than careful in recording the particular symptoms of each ; to this circumstance I attribute that imperfection in our diagnosis of these cases, which it is evident at present exists. I am induced to make these remarks, for the purpose of shewing, that however great has been the advancement of this branch of medicine, our knowledge is not yet so complete as to preclude the necessity of further investigation.

The first case I will beg permission to relate, is that of a boy about 5 years of age, whose death was occasioned by swallowing concentrated sulphuric acid. He was sitting on his father's knee, on the evening of the 22nd of April, 1827, and as it unfortunately happened, there was on the table adjoining, a small jug, containing a little sulphuric acid, some of which, the father, who was a dyer, had just been making use of in his business. The child mistaking it for water, laid hold of it, and, as it afterwards appeared, must have drank some of the acid, although the jug was snatched from his lips almost at the moment it was applied to them. I attended immediately, and notwithstanding it was impossible to say whether any, or what quantity, of the acid had been received into the stomach, as they informed me that in the jug was not apparently diminished, I administered

directly as much calcined magnesia and lime water as I could, and then provoked vomiting by thrusting my fingers into the pharynx; this operation, which I repeated two or three times, made the child cry, and resist violently, but otherwise he did not seem to be in pain, and soon became tranquil. Although his mouth was evidently much injured by the acid, the parents were willing to comfort themselves with the idea that none of it had been swallowed so as to affect the stomach, and certainly there was no positive evidence to the contrary, for, as I have said, he became easy on our ceasing to force the medicine upon him, yet, when I considered the wonderful consent existing between those parts which are concerned in the act of deglutition, I could not but suppose some of the acid had been received into the stomach, the more especially as the child had taken the jug for the express purpose of drinking. I stated this opinion to the father, and requested him to give the calcined magnesia as frequently as he could, until I called again, which I did in about an hour. My little patient was now fast asleep, and breathing freely; they said he had been in that state ever since I left, that they had not given him any more medicine, as he appeared "so comfortable." The case, so far, put on a favourable aspect, I therefore told them I should not visit him again till night, and desired them to inform me if any change should occur before that time. On calling at ten o'clock, I was informed the child had become worse, that he had vomited some quantity of dark-coloured fluid, that they had sent to inform me of it, but not being at home, they had requested the attendance of another gentleman, who had promised to call at eleven o'clock. I attended at that hour; we found the child in bed apparently in a sound sleep; his breathing was not hurried, but certainly somewhat laborious, and attended with a considerable noise; whether caused by obstruction in the larynx, or by snoring, it was difficult to decide, most probably both assisted in producing it; he could scarcely be roused; there was no tension or swelling of the abdomen, nor did the firmest pressure on the region of the stomach cause any uneasiness; he had not vomited since ten o'clock; that which he had previously rejected was small in quantity, and of a dark colour.

The gentleman who was so obliging as to give his assistance in this case, conceiving that the symptoms did not indicate any extensive or fatal injury to the stomach, but that the noise in breathing rendered it probable, the upper portion of the larynx had principally suffered, suggested the propriety of making an opening into the windpipe, and thereby relieve that dyspnœa which appeared the more urgent symptom. This, however, on more particularly considering all the circumstances, was not deemed advisable. The child gradually became worse, and died about four o'clock the next morning.

Sectio cadaveris.—I examined the body six hours after death. The lips were much swollen; the membrane lining the mouth, and that covering the dorsum of the tongue, might easily be

be peeled off. There was no swelling of the abdomen. On opening this cavity, there was nothing unusual to be observed in the general appearance of the viscera, but the peritoneal coat of the stomach might be said to be more vascular than ordinary. The mucous membrane of the œsophagus and pharynx, presented the same appearance as that lining the mouth, being whitened, and readily peeling off from the coat beneath. The edges of the glottis were swollen, as was the membrane lining its laryngeal surface, and that also of the larynx, down to the superior vocal ligaments, but in a less degree. It was loaded with a quantity of frothy mucus. The rima glottidis was rendered narrower than natural by this swollen state of the mucous membrane. On examining the stomach, we found it contained a small quantity of fluid, and several lumps of very black coagula. This organ was most extensively injured; large patches of its mucous coat were entirely destroyed; in two or three places the muscular coat had suffered considerably, so that the continuity of the organ seemed preserved by the peritoneal coat alone. In other parts it was blackened and puckered up.—Small fibres of coagulated blood were sticking in the mouths of the corroded vessels. The duodenum was likewise much injured. The lungs were loaded, indeed they rather approached to a fleshy consistence when cut into. The brain was not examined.

Remarks.—I am persuaded this case will be considered peculiarly interesting; dissection discovered the destruction, to a considerable extent, of the internal surface of the stomach; of that organ whose functional derangements frequently occasion symptoms of the most distressing nature, yet here, there was for a considerable time, no indication whatever, by which any one would have been induced to suppose this important organ had received any injury, much less to the extent it appeared it had. Perhaps this might be explained, on the supposition that the constitution was aware the stomach had suffered an injury inevitably fatal, and therefore made no effort to repair it, as is frequently observed in accidents of a different kind, such as in extensive scalds, and in rupture of any portion of the intestinal canal from external violence. Neither did the case in its progress to a fatal termination, exhibit symptoms of a more decided character, with the single exception of vomiting, for assuredly, had the very intelligent gentleman who proposed making an opening into the windpipe, anticipated the existence of that destruction to the stomach, which the dissection shewed it had sustained, he would not have entertained the idea of such an operation for a moment. I advert to this circumstance, merely as a proof of the obscurity of the symptoms, even at this period of time. This case also shews with what rapidity sulphuric acid destroys the living textures with which it comes in contact, as indeed might be expected, since the space of five minutes could scarcely have elapsed from the moment of swallowing it, to that of administering the magnesia and other remedies. Among the symptoms of

poisoning by sulphuric acid, enumerated by Orfila, are "an acute pain in the throat; nausea and excessive vomitings; burning heat in the throat, œsophagus, and stomach; gripes and excruciating pains over the abdomen, which part will not bear the slightest pressure; coldness of the skin; great restlessness and agitation; also an eruption of pimples over the skin." With the exception of the vomiting, which was not at all urgent, none of the above symptoms were present in the case I have just related. I beg particularly to observe, on the absence of all indication of pain being produced by pressure on the region of the stomach.

The next case, which I will very briefly relate, is that of a female, 30 years of age, who destroyed herself by swallowing a large quantity of arsenic. This she did on going to bed, about eleven o'clock on the night of the 14th of November last, in the presence of a young girl with whom she usually slept, at the same time telling her it was arsenic, and for what purpose she took it. The latter immediately alarmed the inmates of the house, and medical assistance was instantly procured, but the unfortunate woman obstinately resisted every attempt that was made to administer suitable remedies, and she died in rather more than four hours. I am unable to say what were the exact nature of the symptoms in this case, not having personally observed them, but the medical gentleman informed me incessant vomiting was the most prominent. Permission was reluctantly given me to examine the body, but under such circumstances as precluded me from making that complete investigation I could have wished; I, however, removed the stomach, and brought it home, in order to examine it more carefully. It contained about three quarters of a pint of fluid, but no solid food. There was no puckering up or thickening of the coats of this organ. Its internal surface was smooth and even through its whole extent, and the folds formed by the mucous coat were perfectly distinct. The most careful examination could not detect any *particular* abrasion or destruction of this coat, but it was generally much attenuated. Underneath it was a number of specks of extravasated blood, and it was exceedingly vascular. The peritoneal coat was inflamed. There was no coagula in the cavity of this organ.

Remarks.—There are two or three circumstances which more immediately press on the attention in considering this case, namely, the short period of time, scarcely exceeding four hours, in which it terminated fatally; the manner in which death was produced; and the actual condition of the stomach.

The injurious effects produced by arsenic, even in small doses, on living animals, have been so frequently observed, that one cannot be surprised at the quantity taken in this case, inducing violent symptoms; but in what way did it so speedily destroy life? Was this fatal event occasioned by the operation of this noxious substance exclusively upon the organ into which it was received? Or was it absorbed from thence into the circulation,

and thus applied directly to the brain and heart, as some suppose to be the case when arsenic destroys life in so short a time? Now, although the experiments of Mr. Brodie and others certainly prove that it may, under peculiar circumstances, be carried into the blood-vessels, yet, when taken into the stomach, I conceive it occasions death, not by being absorbed into the system, but by operating on this organ, and by violently and suddenly disturbing its functions, and also those of that system of nerves with which it is so intimately connected.

The next point to which I will advert, is the state of the stomach in this case. Orfila has placed arsenic in the class of corrosive poisons, but it appears to me to operate in a way entirely different from those which are properly so called, as these, if not instantly, at least in a very short time, destroy the textures with which they come in contact. Dissection developed appearances of the most opposite character in these two cases; in the former, actual destruction of the coats of the stomach, with extravasation of blood into its cavity; in the latter, nothing of the kind could be observed, yet they are both ranked in the same class, and thereby inducing a belief that they operate in a similar manner. I know not whether the circumstance of the arsenic having been taken in a thick and bland fluid,* may not have had some effect in modifying its action on this organ, but undoubtedly the post mortem appearances were those of inflammation, and not in the smallest degree indicating any corrosive power in the agent which produced it.

ARTICLE VIII.

To the Editor of the Midland Medical and Surgical Reporter.

Dear Sir,—Should the following case be deemed of sufficient interest to occupy a corner in the Midland Medical and Surgical Reporter, you will oblige me by having it inserted in the next.

I remain, Dear Sir,

Your's truly,

W. WOODWARD.

Pershore, April 11th.

John Haywood, aged 50, a chimney sweeper by trade, began his occupation at the early age of five years, but discontinued it about twelve years since, on account of a small substance, having the appearance and size of a wart, shewing itself on the fore part of the prepuce, which has gradually increased to its present state; there is now a disease like a warty excrescence, occupying nearly

* The arsenic was dissolved, or rather suspended, in gruel, and the quantity supposed to have been taken, was at least half an ounce.

the whole of the prepuce, extending up the dorsum of the penis, and, as far as can be judged, its body is partaking of the disease. He suffers a good deal of pain ; there is a thin offensive discharge, and his health has of late so materially suffered, that he is anxious to have the diseased part removed. The glands in the groins seem perfectly free from pain, soreness, or swelling.

February 9th.—The operation was performed. An assistant firmly holding the root of the penis with the hand, and with the other, drawing the skin as far forward as possible, and with a catlin, I cut through the penis, at the distance of about two-thirds from its extremity. The small arteries, four in number, were easily secured, and the stump dressed with dry lint ; towards evening, this was removed, to allow him to pass his urine, which he did with some difficulty. A canula was introduced, with a view to have it remain, but he could not bear the pain it caused him, although I had, some weeks previous to the operation, occasionally passed a bougie to accustom the urethra to its stimulus.

22nd.—He has passed a tolerably easy night; removed the lint to enable him to empty his bladder, which had become much distended, causing him great pain. It was necessary to pass a catheter. There has been some bleeding, but not to any extent. To take a dose of castor oil.

23rd.—Bowels have not been relieved, though, in other respects, he is going on well, and takes his food with an appetite. Again introduced a canula, with a view to keep the urethra open, and to prevent the urine irritating the stump, but was obliged to withdraw it.

24th.—Has slept pretty well, but his tongue is furred, and pulse much quickened, and he complains of tightness across the chest. The stump very sore and inflamed. Has passed his urine without any assistance, and in a full stream. To take four grains of calomel, and afterwards, a dose of senna and salts every four hours, till the bowels should be well moved.

25th.—Bowels have been well opened, and has had a good night; tongue cleaner; pulse quicker; less thirst, and has passed his urine without pain, and freely.

April.—Though the stump has been long since healed, and sufficient opening left for the passage of his water, he has been suffering great pain in the perinæum, shooting towards the prostate and neck of the bladder; his urine he has passed in great pain frequently, and in very small quantities, and mixed with pus. He now makes water with tolerable ease, and is recovering his strength.

ARTICLE IX.

Quarterly Reports of the Worcester Dispensary.

JULY to DECEMBER, 1828.

BY ROBERT I. N. STREETEN, M. D., WORCESTER.

Note.—The alteration in the plan of drawing up the tables, has been made in consequence of the difficulty of getting them printed in time to appear with the reports. Those parts which circumstances have rendered it necessary to omit, will be given in the body of the report, or reserved for communication at some future period.

1828. *THIRD QUARTER. JULY to SEPTEMBER.*

	Canal.	Sev.	City.	Sub.	Coun.	Tot.
Abscess,			1			1
Bronchitis,	1	1	3			5
Catarrh,	1					1
Cholera,	1	1				2
Cynanche tonsillaris,				1		1
Diarrhœa,	3		3			6
Diseased Prostate,	1					1
Diseased Spine,				1		1
Dyspepsia,	5		6	1	2	14
Enteritis,			1			1
Erysipelas,				1		1
Fever,	11	3	3	5		22
Fracture,	1					1
Gravel,			1			1
Hepatitis and Icterus,				1		1
Hysteria,				1		1
Inflamed leg,	1					1
Mania,		1				1
Midwifery case,	1					1
Ozœna,			1			1
Peritonitis,		1	1			2
Phthisis,	4		3	3		10
Pneumonia,		1		2	1	4
Purpura,		1				1
Rheumatism, (acute)	1			1		2
Stricture of Rectum & Fistula,		1				1
Ulcer,					1	1
Variola,			1			1
Unknown,*						1
Total,	31	10	24	17	4	87

Deaths, 4; one from Phthisis, one from Pneumonia, one from Enteritis, and one from Diseased Prostate.

Re-admissions from last quarter, 15.

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* This case is imperfectly entered in the Journals of the Institution.

1828. *FOURTH QUARTER. OCTOBER to DECEMBER.*

	Canal.	Sev.	City.	Sub.	Coun.	Tot.
Abscess, ...					1	1
Amaurosis, ...	1					1
Anasarca, ...	1					1
Asthma, ...		1				1
Bronchitis, ...	4	3	2	1	4	14
Bronchocele, ...			1			1
Cachexia, ...	1					1
Cephalalgia, ...				1		1
Colic, ...			1			1
Coma, ...	1					1
Constipation, ...	1		1			2
Contusion, ...		1		1		2
Cynanche Tonsillaris, ...	1		1			2
Diarrhæa, ...	2		2		1	5
Diseased knee, ...	1					1
Dysentery, ...					1	1
Dyspepsia, ...	3	2	1	2	2	10
Dyspnœa		1				1
Enlarged ovarium.	1					1
Fever, ...	9	3	2	5	3	22
Fracture, ...					1	1
Gastralgia, ...			1			1
Hœmatemesis, ...				1		1
Hœmoptysis, ...		1				1
Hemiplegia, ...	2				1	3
Hepatitis, ...			2	2		4
Hydrops, ...				1		1
Hysteria, ...			3			3
Inflamed leg, ...			1			1
Inflamed schneid membrane, ...		1				1
Inflamed sub-maxillary gland,			1			1
Leucorrhœa, ...			1			1
Mania, ...	2	1	1			4
Menorrhagia, ...	1	1				2
Midwifery case, ...			1			1
Ozœna, ...					1	1
Palpitatio, ...			1			1
Peritonitis, ...		1				1
Pertussis, ...			1			1
Phthisis, ...	3		4			7
Pleuritis, ...	2					2
Pneumonia, ...		1	2	2	1	6
Psoriasis, ...	1				1	2
Rheumatism, (acute)	1	1			1	3
Scrofula mesenterica, ...	1					1
Syphilis	1	1				2
Ulcer, ...		1		1		2
Total, ...	40	20	30	17	18	125

Deaths, 7; four from Phthisis, one from Bronchitis, one from Coma; and one from Pertussis.

Re-admissions from last quarter, 13, one of which, the case of Hepatitis and Icterus, was fatal.

The subjoined remarks upon the diseases entered in the foregoing tables, must be understood chiefly to refer to that portion of them which fell under my own care, with the exception of the information to be obtained from the registers kept at the Dispensary.

FEVER.—Tabular view of the proportions of Fever cases in the several districts.

	Total.	3rd Qr.	4th Qr.	Canal.	Sev.	City.	Sub.	Coun.
Cases of Fever,...	44	22	22	20	6	5	10	3
Total Cases,.....	212	87	125	71	30	54	34	22
Proportions, 1 in	4.82	3.96	5.96	3.55	5.00	10.80	3.40	7.33

The comparative immunity of the city from fever, is strongly marked, by their proportional results, since, of every eleven cases of disease, one only is fever; while in the canal district, and in the suburbs, the proportion is nearly two cases out of seven. The greater prevalence in the suburbs, arises from causes similar to those influencing the production of the disease in the vicinity of the canal, for most, if not all, of the cases occurred in the immediate neighbourhood of moist and marshy meadow land, or of stagnant waters.

The local seat of disease was chiefly in the abdomen; pain, and tenderness on pressure, with a relaxed state of the bowels, being the most prominent symptoms. Next in frequency were the affections of the head, and the cases in which these occurred were generally more severe, and put on more of the typhoid character. The bronchial mucous membrane was affected in two or three only of those which I had an opportunity of seeing, and these were in persons predisposed to disease of the thoracic viscera. The general character of the fever was obscurely remittent, though in some of the cases, the remissions and exacerbations were distinct, and shewed a tendency to periodical return.

In one case, a young man, aged 19, affected with typhoid symptoms, accompanied by severe head-ache and delirium, with flushed face, and a good deal of tremor, upon the decline of the fever, the left leg became considerably swollen and painful, with tenderness on pressure in the groin of the same side. The pain was removed by the application of leeches to the groin, but the swelling of the limb continued for some time after the complete re-establishment of his general health.*

Mania.—The maniacal cases afforded some points of considerable interest, in connexion with their respective causes. They were five in number, one of the patients undergoing a second attack. This was a female, between thirty and forty years of age, who had had an attack of the disease some years before. She had profuse hæmorrhage from the bowels, upon the sudden cessation of which, the symptoms of mania shewed themselves. They soon, however, yielded to appropriate treatment, and she

* The case was, apparently, of the same nature as those described by Dr. Tweedie, in the Edinburgh Med. and Surg. Journal, vol. xxx. p. 258.

resumed her usual avocations. Some time after, in consequence of being highly excited by a sermon preached upon a controversial subject, she experienced a recurrence of the disease, which was subdued by measures similar to those made use of in her former attack.

A third case was in a young man, and evidently brought on by close application to abstruse studies, above the powers of his mind. Another, in a female, was preceded by long continued disease of the abdominal viscera. The fifth occurred also in a female, who had been labouring under an inflammatory disease of the spine, with occasional delirium, for some months. At length, apparently from the action of a moral cause, symptoms of insanity appeared; almost immediately consequent upon which, a considerable diminution of the morbid action, going on within the spinal canal, took place.

In all of these cases, a tendency to cerebral disease probably existed. The exciting cause of the first, was evidently a physical one; the exciting cause of its recurrence, a moral one. Had not the former of these two attacks taken place, this might have been adduced as an instance of religious madness, but certainly without foundation, as the previous history clearly shews, that the patient was predisposed to cerebral disease; and, in short, that any cause, capable of disturbing the circulation within the cranium, might in this be productive of an attack of insanity. The same train of reasoning will apply to the fifth case; for though the distress of mind, occasioned by the operation of a moral cause, was the immediate agent in bringing on the attack of mania, still, the delirium which occasionally attended the inflammatory action going on within the spinal canal, shewed the tendency to disease of the brain, and the application of any other cause, disturbing the circulation in the head, would, in all probability, have been productive of a similar result. The third case is also illustrative of the same principles. It would be just as correct, therefore, to attribute the unsoundness of intellect in this case, to the study of mathematics, as in those before-mentioned, to a religious or moral cause.

Coma.—The fatal case of coma occurred in a child, aged 4 years. It was preceded by inflammation, and purulent discharge from the vagina; immediately upon the cessation of which, the coma supervened, and resisted every measure employed for its relief. No inspection was obtained.

Bronchitis, &c.—There were nineteen cases of bronchitis, one of asthma, one of catarrh, and one of dyspnœa, in all twenty-two. Sixteen, or more than two-thirds, occurred in the last quarter, of which, one, a neglected case of acute bronchitis, proved fatal. Twelve were engaged in the glove trade, two in general sedentary occupations, and eight were exposed to the vicissitudes of the weather, or to sudden variations of temperature. Of the glovers, two were exposed to the inhalation of particles of leather, pumice-stone, &c.; and the remaining ten were occupied in the glove-

sewing, and other sedentary departments. The distribution of the cases was nearly equal throughout the Canal, Severn, and City districts. The numerical proportion as to sex, was greater in the female than in the male; the respective numbers being, nine males and thirteen females.

Phthisis.—The phthisical cases were seventeen in number, five of which were fatal. The mortality in the last quarter, strikingly exemplifies the injurious effects of the approach of a more inclement season in this disease, the deaths being one in ten of the third quarter, while in the fourth, of seven cases, four proved fatal. The number of males were seven, of females, ten. Nine were engaged in the gloving, one in the china-works, three in general sedentary occupations, and four in active employments.

Pneumonia and Pleuritis.—There were two cases of pleurisy, and ten of pneumonia. One of the pneumonia cases proved fatal, in consequence of the giving way of a blood-vessel in the lungs. The phthisical and catarrhal affections, it will be seen, were of more frequent occurrence in the female than in the male. If we except the two cases of pleurisy, both occurring in females, the pneumonia cases, on the contrary, were more frequent in the male than in the female; the numbers being, six of the former, and four of the latter. Of these, seven were engaged in employments more or less exposed to wet and cold, the remaining three were glove-sewers.

The dyspeptic cases were twenty-four in number, twenty-two of which were females, and fifteen occurred among persons engaged in sedentary occupations.

The case of purpura was in a boy, aged 6, residing in Hylton-street. He had had repeated discharges of blood from the nostrils, mouth, rectum, and urethra, at times, for three or four years, and previous to his admission at the dispensary, he had passed bloody urine for some days. His general appearance was exsangueous, and he was greatly debilitated. The abdomen was tumid; the bowels costive; the tongue furred; the pulse quick, with some sharpness, small and feeble. The skin was covered with small purple points, and the slightest blow almost immediately produced an extensive ecchymosis, several of which were visible in different parts of the trunk and lower extremities. The purgative plan of treatment was adopted, under which he soon recovered, though his entire restoration to health was retarded for a time, by a severe contusion of the ancle during convalescence.

One of the cases of acute rheumatism, occurring in a young man, aged 18, residing in the Severn district, was treated with frequently repeated doses of opium. He suffered most excruciating pain, his cries disturbing the neighbourhood, and there was considerable swelling of the joints, with a feeble, quick pulse, white tongue, and warm, moist skin. Five grains of calomel, and a scruple of jalap, were ordered to be taken immediately, and as soon as the bowels had been fully evacuated, a

a grain of opium was directed every hour. The relief was almost immediate, and after the third dose, his pain had left him entirely, and never recurred to any extent. The opium was afterwards conjoined with calomel, and given, at first, every four hours, and afterwards night and morning. On the eighth day, he complained of pain in the region of the heart, with palpitation; and a mixture, containing the tincture of colchicum, with Epsom salts, was prescribed. The symptoms gave way to these measures, and in a few days, convalescence was completely established.

ARTICLE X.

Pathological Facts, with Remarks.

BY CHARLES HASTINGS, M. D., WORCESTER.

CASE I.—Serous cysts of a very large size, situated upon the convex surface of the Liver, complicated with ascites.

In the 12th number of the London Medical Gazette, Mr. Brodie has published an account of two cases of cysts, containing a watery fluid, apparently connected with the liver, which were successfully treated by puncture. This rare disease appears to have been little, if at all, attended to by pathological writers. The instance of it which I am now about to relate, is very remarkable, as the cysts had there attained an enormous size, and much interfered with the functions of the adjacent organs. The subject of this singular affection, was a shoe-maker, aged 37 years. He was first seen by me on the 4th of February, 1820. The following symptoms were then observed.

The abdomen was tumid, hard, and for the most part incompressible. There was slight depression extending from about the region of the caput cœcum to the pit of the stomach, at which last place a fluctuation was perceived when he was sitting up, but not when lying down. Had great pain, not constant, in the right hypochondrium, in the back, and in the right shoulder, in which also he had an almost constant sense of coldness, and when sitting upright, had pretty severe pain across the abdomen at the navel; great dyspnœa, except when lying on the right side; and a distressing cough; expectoration difficult; sputum clear, frothy, of a bluish colour, and salt taste. While out of bed, he sat most with his head leaning on a table, the body inclined forwards, and towards the right side. His sleep was much disturbed by unpleasant dreams and frequent startings. His countenance was expressive of great anxiety; excessive emaciation; pulse 120, not weak; respiration frequent and laborious; tongue of a purplish red; appetite pretty good; considerable thirst. He vomited often in the morning a frothy matter. Bowels costive; fœces dark coloured; urine scanty, with a light red deposit.

After having been a soldier for seven years, and engaged in

active service, he returned home in the summer of 1816, and, in a short time, he became much troubled with dyspeptic symptoms, which he attributed, with great probability, to his sedentary employment as a shoe-maker.

In November, 1817, his feet and ancles became œdematous. The swelling proceeded upwards, his face, at length, partaking of the affection.

In June, 1818, he was attacked, for the first time, with pain in the right hypochondriac region and right shoulder, from which time his symptoms gradually increased.

He employed mercurial frictions for eight weeks, by which his mouth was scarcely affected. It was then intermitted for a time, and afterwards renewed, and continued for ten days. Afterwards he did not make use of any medicines, except purgatives, to keep his bowels regular, and laudanum, to allay the violent pain which he frequently experienced. From this time, little change took place in the symptoms, except in degree. The abdomen increased in bulk. The fluctuation below the point of the sternum, which before was perceived only in the erect posture, was now very distinct even when in the supine position; and when he coughed, a considerable protrusion was observed at this part. There was also now distinct fluctuation in the lower part of the belly. The dyspnœa was very distressing, the most trifling motion causing him to gasp, and appear dying for want of breath. His expiration was remarkably forcible.

On the 11th of March, 1820, the operation of tapping was determined upon, and forthwith performed by an incision with a scalpel, about three inches below the point of the sternum; eight pounds of fluid were discharged while he continued in the horizontal position; and when he sat up to have the roller fastened about him, fluetnation was again perceived in the same place, and there was an oozing under the strap by which the wound was closed. On the canula being again introduced, upwards of a pound more of fluid was evacuated.

His breathing was now greatly relieved, and he only complained of pain in the small of his back.

On the 13th, (two days after,) the breathing had again become exceedingly oppressed, and a canula was passed into the former wound, and four pounds of fluid obtained, from which he experienced relief as before. Pulse frequent, small and feeble; constant pain in his back and loins.

From this time until the 21st, about twelve hours before death, there was a continual copious oozing from the wound.

Early on the morning of the 22nd, he died. On the same day his body was examined.

Dissection.—The teguments of the thorax and abdomen being turned aside, and the sternum removed, there appeared to view, in the epigastric region, a fine membrane forming largish cells, from which a fluid escaped on its being punctured. The situation of this membrane was between the peritoneal covering of the

liver, and the parietes of the abdomen. This appears to have been the seat of the whole of the fluid which had been removed by the operation, as no communication was discovered between its cells and the general cavity of the abdomen.

The lungs were small, and remarkably collapsed, and adhering pretty strongly to the diaphragm, but otherwise healthy. The heart small, but healthy. The cavity of the thorax contained several pints of fluid.

The liver seemed nearly to fill the cavity of the abdomen, and pushed up the diaphragm as high as the second ribs; and it extended downwards nearly to the pubes. Its peritoneal coat adhered extensively to the diaphragm. Between this covering and the liver itself, a vast cyst was formed, which contained nearly fourteen pints of bloody serum. The liver, in other respects, was healthy. The spleen healthy.

The large intestines were very much contracted, the diameter of the colon not exceeding one-third or one-fourth of that of the ilium, and the coats were greatly thickened.

In the abdomen were about eight pints of fluid, somewhat viscid and tinged with bile.

There was a small quantity of purulent matter, though no ulcerating surface could be found.

Remarks.—This singular and interesting case seems well worthy consideration, as the subject of it seems to have fallen a victim to a disease, which did not appear to affect the substance of any of the important organs. It is probable that originally the cysts on the convex surface of the liver, which had attained so enormous a size, were not larger than those Mr. Brodie punctured with success; and it is to be presumed, that if the case had been seen sufficiently early for this practice to have been employed, it would have been followed by a like favourable issue.

The case is also very important, as illustrating the necessity of being very cautious in forming a decided opinion of the existence of organic disease of the liver, where there is very evident enlargement in the neighbourhood of that viscus; for the above case convinces us, that this state of tumefaction may occasionally arise from extraordinary accumulations of fluid in cysts, at the convex surface of the liver, without any disease of that organ.

This instance also seems satisfactorily to evince, that the cases Mr. B. punctured, were really what he supposed them to be, cysts containing a watery fluid, connected with the liver.

There is also another point to which the attention of the reader should be called; the unnatural situation of the diaphragm, occasioned by the accumulation of fluid at the convex surface of the liver. The cavity of the chest, by this means, was much diminished in size, and hence arose the cough, difficulty of breathing, and disturbed dreams; as likewise the compression of the lungs, and collection of serous fluid in the thorax.

[TO BE CONTINUED.]

ARTICLE XI.

HOSPITAL REPORTS.—WORCESTER INFIRMARY.

Case I.—Empyema, with external Tumour.

Thomas Booth, æt. 62, presented himself for admission at the Worcester Infirmary, and was received under the care of Mr. Sheppard, April 5, 1828, with an oblong tumour, about the size of the section of a turkey's egg, situated over the cartilages of the four inferior ribs on the right side, and about four inches below the mamma; the tumour is free from pain, of an irregular form, with a disk of inflammation on three of its most prominent points; it is firmly attached, and immoveable at its base; lobulated and knotty in its feel; somewhat elastic on pressure, and giving the sensation of a fluid in different cysts. He says, in the month of last September, he fell on the edge of a hop-kiln, and struck the part severely; the blow, however, did not incapacitate him from going on with his work, that of hop-drying; the pain soon abated, when, about two months after the blow, he discovered a small tumour, about the size of a large nut, which has continued to enlarge ever since; handling, at the present time, does not give any pain, and several enlarged vessels are apparent on the surface; to the eye and feel, it has some resemblance to the fungus hœmatodes. About three weeks since, he was directed to keep it wet with a strong solution of salt, which he did for four days, and to this he attributes the first appearance of inflammation.

Tuesday, April 8th.—A puncture, with a lancet, was made in the middle of the tumour, when immediately a quantity of fetid pus gushed out, containing an *innumerable* quantity of hydatids, most of them about the size of small nuts. The integuments now collapsed, but on the patient being desired to cough, the tumour was immediately filled, and pus and hydatids spouted from the wound on every effort to cough, in all about 10 oz. of pus was discharged, filled with hydatids. A small dossil of lint was inserted into the wound, a poultice laid over it, and the man sent to bed.

9th—He has passed a good night, and is this morning free from pain and fever, but has some tendency to cough; on renewing the poultice, a considerable quantity of the same fetid pus and hydatids were discharged from the wound.

10th.—Complains of pain in the neighbourhood of the wound, which discharges very freely; it is painful on pressure; his face is flushed; has had rigors during the night. Pulse 110; tongue white; cough urgent, with dyspnœa. Fourteen leeches were applied to the painful part, and his bowels were purged.

11th.—Pain and breathing greatly relieved. His bowels are open; tongue white; pulse 100; discharge from the wound very profuse; cough easier.

12th.—Has passed a good night, with refreshing sleep; pain and tenderness much better; pulse 80; discharge less this morning, but its character the same. He takes an inspiration without pain, but not without cough; tongue continues white; skin is rather hot. Twelve leeches were again applied; a bolus with five grains of calomel, and five of antimonial powder, was ordered to be taken directly, to be followed by half an ounce of castor oil, and to take a saline antimonial draught every four hours after the operation of the opening medicine.

On applying the stethoscope above the right nipple, the respiratory murmur was very distinct, below that part it could not be heard; on directing him to cough, the gurgling of fluid was heard in the chest; the left side appeared sound when examined by the same instrument.

14th.—The discharge is lessening; cough very troublesome, with copious expectoration.

16th.—Pulse 80; tongue cleaner; bowels open; has passed a good night; cough easier; expectoration continues; turns himself in bed with more ease; can rest on either side.

23rd.—In all respects better; the discharge from the wound thinner, but more copious; he was allowed a little meat to day, and ordered to have some porter daily.

26th.—He is going on well. The respiratory murmur now heard indistinctly below the right mamma. The discharge is lessening; the tongue is clean; he gets good nights; cough and expectoration much lessened.

June 28th.—He left the infirmary much improved in his general health; cough was very slight, and the discharge reduced to the quantity of ℥i ss. in the 24 hours.

Booth presented himself at the Infirmary the beginning of June, in the present year. He returned to his labour more than six months since, and in the month of May he worked hard at his usual occupation, that of a woodman, in felling and barking trees. He considers himself in good health, and is able to do as much work as formerly. He has, occasionally, a little discharge from the wound; in all other respects is quite well.

Case II.—Fungus Hæmatodes.

Sarah Jackson, æt. 62, very tall and thin, with sallow complexion, admitted into the Worcester Infirmary, under the care of Mr. Sheppard, May 3, 1828, labouring under hepatic symptoms, palpitation of the heart, and dyspepsia. Has always enjoyed good health, till the cessation of the catamenia.

About a year ago, she perceived a small tumour below the patella of the right leg, but did not take much notice of it till a short time after her admission into the Infirmary, when it became painful, and continued to increase slowly. Leeches were repeatedly applied to it with very little benefit, still she could walk with the leg, and continued to do so till about the middle of July, when it suddenly became very painful, and she was unable to bear the least weight upon it.

Upon making an examination of the tumour at this time, it was found increasing in bulk on each side the ligamentum patellæ, which was somewhat elevated. The integuments covering the tumour felt very firm, were of a dark colour, and in parts approaching to purple; temperature somewhat increased. There was also a very decided and rather a strong pulsation throughout the tumour, which gave, at this time, some idea that the disease was aneurism, from anastamoses of the articular arteries of the knee joint. Pressure on the femoral artery immediately stopped the pulsation, and steady pressure for a few seconds, sensibly lessened the tumour; on removing the pressure from the femoral artery, the pulsation and enlargement were instantly reproduced. Bandaging and compresses were ordered, and continued for some days, and she was directed to take 40 drops of laudanum at night; after a few days, the bandages, &c. were removed, as they could no longer be borne, and linen, wet in cold lotions, was substituted, with some relief. In this manner she continued till the 6th of August, when her health became considerably worse, the palpitation of the heart increasing, the pulse being 160 in the minute. The cardiac symptoms continued very severe and alarming for some time. The palpitation of the heart was most distressing and constant, but under the aid of medical treatment, the more urgent symptoms gradually gave way. The tumour, however, still continued to increase, and became rather softer; no abatement of pain; the pulsation still continued; the circumference of the limb was increased many inches. On the 5th of September, in consultation, it was determined that amputation of the limb should be resorted to, as affording the only means of saving her life. Little blood was lost during the operation, which she bore better than was expected, but continued very languid the whole day; an opiate was ordered at night.

On making an examination of the tumour, its parietes were found very compact, with layers of bone interspersed throughout; when an incision was made through the substance of the tumour, its contents presented that appearance which is described as constituting "medullary sarcoma," or, by Mr. Hey, of Leeds, as "fungus hœmatodes." There was a considerable quantity of dark coagulum, with firm yellow lymph deposited in irregular layers; mixed with which, there was a soft pulpy substance, resembling macerated brain in appearance. This occupied the space of the whole cancellated structure of the tibia, from the articular surfaces downwards as far as the anterior tuberosity. An opening was found through the cartilage into the knee joint, the synovial membrane of which was highly vascular, and in parts had a granulated appearance. Posteriorly, the tumour was in close contact with the popliteal artery, which, with the articular arteries, were in a perfectly healthy state. The muscles in front of the leg were much softened, and of a very dark colour for the extent of three or four inches below the tumour.

On the 6th, countenance distressed; stump hot; pain in the head and region of the stomach. Pulse 130; bowels costive. Mist. cathart. ℥i. ss. statim.

7th.—No abatement of pain; pulse 140; tongue red, dry, and furrowed, with a white fur at the back. Bled to 16 oz.

8th.—Blood cupped and buffed; relieved by the bleeding, but still has much heat and pain in the epigastrium. Bowels costive; pulse 128. Hirud. xij. epigast. ol. ricini ℥ss. every two hours till the bowels act; calomel, gr. v. at night.

9th.—Bowels have been moved twice; better in every respect.

10th.—Stump having become hot and painful, the dressings were removed, when about four ounces of very dark grumous blood flowed out; wound open, and containing a large coagulum. Integuments flabby; has frequent eructations; pulse 128.

11th.—The stump has been easy during the night, and the bowels have been moved. The stump is uniting at the sides, but there is a discharge of grumous blood, and some coagulum remaining in the wound. Complains of the palpitation and nausea, accompanied with frequent eructations. To take the effervescing draught, with tinct. hyosc. every four hours.

12th.—Had pain in the back last night, for which she was bled to six ounces, with some relief. Blood buffed; tongue cleaner and more moist; nausea better; pulse 120. Stump improved in appearance, but the integuments are very loose and flabby, and tender to the touch. From this time she gradually improved, and the stump assumed a favourable aspect, and ultimately healed slowly. The cure was much protracted, in consequence of extensive sloughing of the sacrum, from her long confinement to bed; she, however, left the hospital the beginning of last May, having quite recovered her former state of health. The stump has been healed some months, nor has there been the least tendency to any return of disease.

Dr. Milligan, of Edinburgh, in passing through Worcester, saw the patient, a short time before the operation, and concurred in the propriety of removing the limb, though the precise nature of the disease was still obscure.

Case III.—Marasmus, after Fever.

Mary Warren, æt. 11 years, was admitted into the Worcester Infirmary, on the 6th of June, labouring under marasmus. She complained of severe pain across the loins and between the shoulders; pain and tenderness in the right iliac region and epigastrium, with slight cough; abdomen soft, and about the natural size; tongue white; pulse 84; bowels open; has been ill about three months. About a month previous to her admission into the hospital, she had a violent attack of fever, and lost all the hair from her head; when recovering, she caught cold from going out of doors, succeeded by pain in the hepatic region. Cough urgent; dyspnœa, attended with copious expectoration of blood; great pain and tenderness of the whole of the abdomen; could

procure no rest at night; had severe pain in the head, attended with giddiness, and would frequently have fallen if she had not been supported; the whole of her family are unhealthy. Her father is by trade a sawyer, but not having lately had employment, has been engaged in breaking stones on the road, and been obliged to leave his daughter to the care of a woman in Stourport, (where he lives,) who has frequently kept her the whole day without food, but at the same time, sent her to her work, which was spinning in one of the large manufactories of that town. ℞ P. magnes. co. ʒi. aq. menth. P. ℥i.ss. sumat. bis indies. House diet, and a pint of milk daily. 9th—Pain entirely gone, cough better. 12th.—Cough much better, is rapidly gaining flesh. 16th.—Has slight head-ache, in other respects much better. 20th.—Cough gone, has no pain, and she has gained flesh.

Case IV.—Tracheitis, Bronchitis, and Vomicæ.

Maria Hale, æt. 17, was admitted into the Worcester Infirmary, June 13th, with urgent symptoms of tracheitis; upon entering the board-room, she could not articulate distinctly until she had drank some water, which was given her. Had a most distressing cough, urgent dyspnœa, accompanied with copious purulent expectoration, constant rattling in the throat, occasional flushing of the face; does not complain of any pain, is averse to talking or using the slightest exertion; bowels open; tongue furred and dry; pulse 100. Applic. hirud. x. regioni tracheæ et postea, emp. lyttæ circa guttur. ℞ Zinci sulphatis, pulv. ipecac. aa. gr. x. aq. fontis ℥i. ss. ft. haust. omni aurora sumendus.

16th.—Is occasionally delirious; breathes rather more freely; tongue foul and dry; expectoration copious; countenance anxious, cough troublesome; the emetic has had the desired effect. Perst. She gradually got weaker, without any alteration of the symptoms, until the 20th, when she died.

Sectio cadaveris.—Upon opening the thorax, the pleura pulmonalis of both sides was found strongly adherent to the pleura costalis, by old adhesions; about eight ounces of serous fluid in each cavity; the pericardium contained four ounces of fluid of the same description. Upon laying open the trachea and bronchi, the internal surface was found to be completely covered with small ulcers, increasing in size as they approached the lungs, where there were some of considerable size. Upon cutting into the left lung, the superior lobe presented a mass of tubercles, in the purulent state, and one large vomica filled with pus; the right lung not so much diseased, but a considerable number of tubercles, in all stages, were discovered in the superior lobe, the inferior lobe having much fewer, and of less size, than any other part of either lobe. The abdomen contained a considerable quantity of fluid, with enlarged mesenteric glands.

Case V.—Cynanche Tonsillaris.

Elizabeth Tolly, æt. 26, came into the Infirmary, May 30th, suffering from cynanche tonsillaris. She complains of pain in

the knee joints, severe pain and giddiness in the head, cough, copious expectoration, tonsils much enlarged and inflamed, fauces inflamed; catamenia never appeared until about twelve months since, since which time she has had them every other week; has been subject to attacks of cephalalgia, every three weeks for the last ten years, with occasional giddiness; has considerable pain and tenderness in the left iliac region; tongue white; bowels confined; pulse 70, weak. V. S. ad ℥xij. sumat. olei ricini ℥ss. statim. About three weeks after Christmas, took cold, and had an ulcer in the right hip, which, under medical care, was quickly cured; after which she again took cold, attended with sore throat.

June 1st.—Applic. emp. lyttæ gutturi. 2nd.—Throat much relieved by the blister; complains of pain in the chest, with dyspnœa. 3rd.—Has pain in the left side. V. S. ad ℥xij. et emp. lyttæ lateri dolenti. 4th.—Has had a good deal of head-ache all night; feels very low; pain in the side relieved; throat much better; bowels open; urine high coloured. 7th.—Throat nearly well; head-ache gone; occasionally faint and sick; pain in the side much relieved; bowels open; urine paler; tongue white; pulse 70, very feeble; has occasional swelling over the body and extremities, attended with slight pain; catamenia appeared this morning. 8th.—Made out-patient, is very much better.

Case VI.—Hepatitis.

Ann Williams, æt. 20, admitted into the Worcester Infirmary, May 30th. Has severe pain and tenderness in the hepatic region and abdomen; appetite very bad; cannot sleep at night; has slight pain in the head; catamenia profuse, but regular; feels very weak during the time they continued; bowels open; tongue white and loaded; pulse 84, weak. Applic. hirud. xij. lateri dextro. Has been ill five days. Thinks her illness arose from taking cold by going out of doors not sufficiently clad; had previously a very severe cold in the head; is very subject to cold; had an attack of a similar nature about fourteen months since; had an inflammation in the left elbow, which preceded her former illness; was ill at that time about four months. 31st.—Pain in the side relieved by the leeches. Sumat. pil. antim. co. 4tis. horis, c. sol. mag. sulph. ℥i. Dieta tenuis. June 1st.—Pain and tenderness much better.—Complains of pain in the right side of the chest; is much better in herself. 4th.—Pain and tenderness in the hepatic region still continues, but not so severe; in other respects is much better; bowels open; tongue furred. 5th.—Pain in the right side increased. Rept. hirud. 7th.—Pain in the side much better; appetite good; sleeps better at night; pain in the head gone. 9th.—Has slight pain in the side. Rept. hirud. 14th.—Continues much better. Made out-patient.

Case VII.—Hemiplegia.

James Jevons, æt. 10, came into the Infirmary, May 30th. Has partial paralysis of the right side; occasional head-ache; the

pupil of the left eye contracts very irregularly; pain and tenderness in the hypogastrium; intellect much impaired; memory very bad; looks idiotic; tongue, when projected from the mouth, is directed towards the paralytic side; bowels costive; tongue clean; pulse 84, weak. About Christmas last, had a fall from a cart, and received a severe wound over the left orbit, from which time he has complained of occasional head-ache. Has had symptoms of hemiplegia for five weeks; has been under surgical care, but obtained only temporary relief. Applic. hirud. xii. lateri capitis sinist. Sumt. haust. cathart. ℥i. statim, et repet. post horas tres, si opus fuerit.

June 2nd.—Is much relieved by the application of the leeches; head more free from pain; can raise his arm with more ease; walks better; pupil of the left eye contracts more regularly; tongue projected from the mouth in a straighter line, can move it to the left side with ease, which he could not do before; answers questions more readily. 3rd.—Rept. hirud. cras; perstet in usu haustûs cathart. omni mane. 5th.—Is much better since the application of the leeches. 7th.—Applic. emp. lyttæ lateri capitis sinist. postea. Ung. antim. tart. ibidem. 9th.—Can use his extremities with much more facility; pupil of the left eye contracts naturally. 14th.—Sumt. mistur. cathart. p. r. n. 16th.—Opens the hand much easier, the extremities much less paralytic. 19th.—Sumt. strichninæ, gr. 1-6 ter indies. 24th.—Continues to improve. Rept. emp. lyttæ capiti.

July 7th.—Has continued to improve under the use of the strichnine; augeatur dosis strichninæ ad gr. 1-3 ter die.

Case VIII.—Ovarial Dropsy.

Lydia Williams, æt. 43, came into the Infirmary, June 6th.—Abdomen very much distended, with occasional swelling of the extremities; is very weak; has violent burning pain in the back and iliac regions; her catamenia appeared last week, has not had them for two years before. Has been ill three years; perceived a swelling of the abdomen soon after the menstrual discharge ceased; attributes her illness to cold; has been used to washing and cooking, and much exposed to heat and cold. Is much better since the catamenia appeared; abdomen rather decreased in size. 10th.—Fiat paracentesis abdominis; wishes the operation deferred for the present. 30th.—The operation was performed this day; $4\frac{3}{4}$ gallons of perfectly limpid and colourless transparent fluid were drawn off; upon testing it with nitric acid, not the slightest deposit took place, but upon testing it with a solution of nitrate of silver, there was found a copious deposit, which rapidly became black on exposure to the rays of the sun. The fluid tasted very salt.

July 3rd.—Feels very weak; urine scanty. 6th.—Feels much better; urine more copious. 7th.—℞ pulv. scillæ, P. zingib. aa. gr. ss. pulv. rhei, gr. ij. ft. pil. ter die sumenda.

Case IX.—Rheumatism and Cough.

Jane Wood, æt 30, came into the Infirmary, June 10th. Complains of pain in the left shoulder and arm, which is much more severe at night; ancles swelled and painful; knees feel stiff, but not swelled; has pain in the course of the spinal column; fingers occasionally contracted; has cough, dyspnœa, no expectoration; complains of giddiness; tongue clean; bowels regular; pulse 60; appetite bad. Has been ill, off and on, for ten years. Attributes her first illness to cold, occasioned by leaving off part of her clothes to be washed; has been used to nail making; is much exposed to heat and cold; caught her last illness by going out too soon after her last confinement, which was six months since; dyspnœa much more urgent when pregnant than at any other time. Sumt. pil. antim. co. omni nocte. ℞ sol. mag. sulph. ℥i. vin. colchici, ℥xv. m. fiat haust. ter die sumend. Dieta lactea. 16th.—Cough worse. Sumt. linctum pro tussi. 17th.—Cough and pain much better. 19th.—Omitt. medic. ℞ sulph. quinin. gr. i. infus. rosæ ℥i. ter die sumt. Cont. pilul. alt. noctibus. 22nd.—Cough better; pain in the limbs much relieved. 26th.—Appetite improved; feels weaker.

July 3rd.—Limbs feel stiff; pain gone. 4th.—Made out-patient.

GLOUCESTER INFIRMARY.

Case I.—Singular Tumour, growing from the dura mater, at the base of the cranium.

William Bevan, æt. 21, four months previous to his admission into the Infirmary, caught a violent cold, by working in a damp room under ground, which continued about a month, and then left him; but a few days afterwards, he experienced a dull aching pain in his right ear and temple, which gradually extended over his cheek, always continuing, but sometimes much worse than at others. He was then bled, and had leeches applied to his temple, by which the pain was a little alleviated. The pain then extended along his lower jaw, his right eye-lids were at the same time drawn a little outwards, which was accompanied by a sensation of stiffness.

In proportion as the pain descended and spread over his face, the feeling of the affected parts diminished. He lost his hearing on that side entirely; the corner of his mouth was drawn towards his cheek, and his speech became very thick and indistinct. The inside of his mouth was a little swollen near the angle of the jaw; his taste on the right side was destroyed; he lost his appetite, and became uniformly dull and sleepy. A discharge of matter also took place from his ear. The pain and stiffness at length extended precisely over half his face, accompanied by a throbbing in his ear, and a slight catching sometimes in his neck. He also complained of a dull heavy pain on the right side of his head, particularly affecting his ear and fore-head. In the course

of the first month after his admission, he was cupped on the temples and between the shoulders two or three times; bled from the arm to ℥xx. and had, at three several times, six moxas applied on the affected side of the face; he took, also, some 5 gr. doses of calomel, followed by strong aperient medicine, by all which treatment he was so much weakened as to be overpowered by very slight exertion. However, after the cupping, he always felt relief, and in some degree after the bleeding; and he thought the pain in his face a little better after the application of the moxas. On the whole, he was much freer from pain than when he came into the house.

At this time, a seton applied in the nape of his neck, gave relief to his head, but the pain began to extend occasionally to the left side of his forehead. The throbbing and pain in his right ear continued much the same. Recovering from his state of extreme weakness, the pains in his face increased, and became again as bad as ever; a stiffness in his neck was also perceptible on the right side.

September.—About the middle of this month, two blisters applied in succession behind his right ear, diminished the throbbing considerably. The unguent. antim. tart. rubbed to his face has alleviated his pain. During the last four weeks he has been cupped five times, without any permanent benefit.

October 10th.—His dullness and sleepiness still continue, accompanied by loss of appetite. He requires medicine to keep his bowels open. The pain in his head is very severe. His head is ordered to be shaved, and two moxas to be burnt in every three days.

October 24th.—The moxas relieved the pain in his head where they were applied, but he still complains of severe pain in the forehead and down to the left ear. Ordered scruple doses of carbonate of iron, with hyd. sub. gr. ij. in each twice a day. Having taken three doses of the carbonate of iron, his symptoms became worse, and the medicine was left off. His voice has now left him.

November 9th.—He describes his sensations to be such as if an immense weight were placed upon his head, and when he moves it, or begins to dose, he experiences a dreadful whirling sensation. This he has felt in some degree ever since he came in, but it has increased greatly within these two days, so as to keep him continually awake. His throat appears choked up with something which prevents his speaking, except in a whisper.

In the following February he died, no material alteration in his symptoms having taken place, excepting their gradual increase, and that latterly a great and increasing discharge of mucus from his right nostril has taken place.

The post-mortem examination discovered a large tumour arising from the dura mater, covering the middle division of the right side of the base of the skull, consisting of a number of encysted tubercles, filling up the hollow of the squamous portion

of the temporal bone, thence (the bony matter which would have otherwise stopped its progress being destroyed) descending into the throat, and forming there a large conical pendulous projection.

The front of the tumour blocked up the posterior entrance of the nostril, and its right side that of the corresponding eustachian tube.

Case II.—Tumour of the Testicle.

James Voyce, aged 35, was admitted into the Infirmary, April 9th, 1829, with a tumour on the right side of the scrotum, the size of a swan's egg, of a regular longish oval shape, with rather the smallest end downwards. It was very tense and elastic, with a feeling of fluctuation rather obscure. The skin of the scrotum over it was perfectly loose, not at all discoloured, nor altered in appearance. The veins on the surface were not enlarged.

The testicle was not distinguishable from the general tumour. He attributes the swelling to a blow which his testicle received about fifteen months ago, from which he suffered very great pain for a short time, but not sufficient to prevent him from resuming his work on the same day. From the time the injury was received, the swelling gradually increased, without giving him any material uneasiness.

When he came into the hospital, the tumour presented a good deal the appearance of a hydrocele; but as it was much heavier, and the fluctuation rather indistinct, it was considered right, previous to operating, to use the precaution of puncturing it with a lancet, which being done to some depth, no discharge of fluid took place.

His general health appeared a good deal affected, though he did not complain of pain in the tumour, except occasionally. It did not generally prevent his sleeping. His appetite was very irregular. He appeared to have lost a great deal of flesh, and there was a peculiar sallow appearance in his face, with paleness of his lips and heaviness about his eyes. There was also a yellowish tinge in his skin, with general dryness. He had, occasionally, a little pain in the course of the cord, and up to his loins, occurring, however, less frequently since he had been lying in bed.

The spermatic cord was a little enlarged, and adherent to the surrounding parts. He took of the liq. potass. hydriod. ℥viij. three times a day, with five grains of blue pill every night.

May 27th.—His general health appears to decline. He sweats at night, and for the last fortnight his breath has been affected, having pain on taking a deep inspiration, with a short hacking cough, unaccompanied by expectoratiou. There is tenderness and occasional pain in the course of the cord. The swelling is enlarged, but its external appearance is not altered. His voice is weak, and he appears overpowered by slight exertion. He sleeps badly; his appetite is very indifferent; his pulse small and quick. He takes ten drops of tinct. digitalis, with the common saline mixture, twice a day. Extr. lactucæ, gr. viij. ext. hyoscyami, gr. iij. ext. opii. gr. i. every night.

June 1st.—His symptoms continue much the same, with this addition, that he refers to the right hypochondriac region as the seat of pain, and considerable tenderness. Cupped over the seat of the pain. 6th.—He became worse in his health, and being very desirous to go home and be among his friends, he was permitted to leave the house.

During the progress of the case, there were thoughts of removing the tumour, but this was rendered altogether unadviseable, by the supervention of the cough and pain in the side.

Case III.—Cataract successfully treated.

William Hill, æt. 38, has been subject to psorophthalmia ever since his childhood. He has lost all his eye-lashes, and his eye-lids are considerably thickened. He now appears at the infirmary with hard lenticular cataracts, the first symptoms of the formation of which, took place about a year and a half ago. He cannot distinguish any object, but can easily discriminate between light and darkness. The application of the extract of belladonna on the eye-brows and round the lower lids, has an immediate effect in producing great dilatation of the pupils, with increase of the power of vision.

Mr. Fletcher having decided upon operating, ordered him five grains of calomel on the previous evening, and in the morning an aperient draught. The extract of belladonna was applied immediately before the operation.

Mr. Fletcher first punctured the left eye with Saunders' needle, about $3\frac{1}{2}$ lines behind the transparent cornea, and transfixing the lens obliquely in a horizontal direction, carried it away to the bottom of the eye, by a circular motion; he then gradually withdrew the needle, rotating it gently to free it from the lens. In the same way he operated immediately afterwards on the right eye.

Cold applications were laid over the eyes; he was placed in a dark room and put on low diet.

Hardly any inflammation supervened; the lenses remained depressed, and he was discharged with restored sight, the third or fourth week after the operation.

A. J. WOOD,
Late Pupil to Mr. Fletcher.

ARTICLE XII.

To the Editors of the Midland Medical and Surgical Reporter.

Gentlemen,—It is mentioned in your Journal of November, that Malvern is peculiarly calculated for the preparation of artificial mineral waters. Malvern probably excels any place in England for salubrity of air and purity of water.

The Seltzer, the Pyrmont, and the Seidlitz waters, have been prepared with success by Mr. Doidge, the soda manufacturer.

The Seltzer water has been drank by several gentlemen who have drank it on the Continent, with their approbation, and two of the Cheltenham physicians have found it to be a mild laxative when taken before breakfast, and the taste pleasant.

The Seidlitz water is more laxative than the Seltzer, from combining soda and magnesia with the sulphuric acid, and it is known that Glauber and Epsom salt, when combined, have a greater effect than either salt separate.

The Pyrmont water is prepared from the Peak aperient chalybeate, which unites laxative with tonic qualities.

The iron is combined with the muriatic acid, which prevents the decomposition which takes place on the escape of the carbonic acid, and the fluid continues transparent.

I am, Gentlemen,
Your's,
GEORGE COOKE.

ARTICLE XIII.

Summary of METEOROLOGICAL OBSERVATIONS *made near* WORCESTER, *in the Months of* APRIL, MAY, *and* JUNE, 1829.

BY JOHN WILLIAMS, ESQ., OF PITMASTON.

April.—The three first days, the mornings were frosty; the remainder of the month was, for the most part, showery, with cold winds; the barometer and thermometer being generally low, and vegetation unusually backward.

May commenced with south westerly winds and cool cloudy weather, which continued the first nine days; the wind then became easterly, with bright sunny days, warm, as indicated by the thermometer, at noon, but felt cool as to the sensation of heat, owing to the great dryness of the air. This state of the weather happening at the period of the flowering of the apple and pear trees, occasioned the blossoms to set a most abundant crop of fruit. But there were great complaints of the want of rain, for the Lent grain and hay crops, at the close of the month. The barometrical mean exceeded 30 inches.

June.—The dry weather which prevailed during the past month, continued till after the middle of June. The wind proceeding mostly from the dry points, between N. W. and N. E.; during this period, there were few calm, clear nights, consequently there was no deposition of dew on the leaves of vegetables, and the shallow-rooting kinds of herbaceous plants, garden productions, &c. suffered extremely from the continued drought. The thermometer rose to 78° at 2 p. m. on the 3rd, and to 77° on the 11th, 12th, and 13th. The barometer kept up above 30 inches till the 15th, when it began to fall, and the wind became southerly. There were heavy thunder storms on the 17th, and so on after Midsummer, the barometer continuing depressed, the weather gradually became showery to the end of the month, and setting in at this season, after a period of six weeks of unusual drought, seems likely to continue.

ARTICLE XIV.

A Summary of METEOROLOGICAL OBSERVATIONS, *at* HANLEY GREEN, *three miles east of Malvern Wells, and at* MALVERN WELLS, *for the Months of* APRIL, MAY, *and* JUNE, 1829.

BY JAMES LEWIS, SURGEON.

April.—From the 1st to the 22nd of this month, the barometer varied from 29.20, the highest, to 28.15, the lowest point; from that period to the end, the lowest was 29, and the highest, 29.80. The mean of the thermometer during the whole of the month, was 50° and 55°, excepting the first three days, when it was as low as 43°. For the first three days the wind was N. N. W. with sharp frost, then, till the 9th, S. and S. W. on which day it was N. N. W. and continued generally W. and S. W. until the 20th, when we had N. N. E. and N. N. W. winds until the end. During the whole of this month, the weather was cold, with very frequent showers, and occasionally hail, snow, and thunder; on the night of the 29th, the wind was tremendous, and continued so the whole of the next day, blowing a perfect hurricane, but the effects were not as disasterous as might have been expected. Trees were uprooted in almost every direction, ricks denuded of their thatching, and scattered about, fences prostrated, and bricks and tiles dislodged; beyond this, the violence of the gale was not productive of any other damage in this vicinity.

May.—The barometer during the whole of this month, continued nearly stationary, and with very little variation, the mean being 29.55. The thermometer in like manner ranging about 60°. The wind, in the early part of the month, W. S. W. and N. W.; about the middle we had easterly winds, which continued shifting to E. N. E. and N. N. E. till the end. In the early part of this month, we had a few light showers, all the remaining part was dry and fine.

June.—The barometer varied from 29 to 29.80, generally during the whole of the month, keeping steady at about 29.65; at Malvern Wells, the barometer almost invariably ranges ten cents higher than at Hanley Green. The thermometer, with very little variation, averaged 66° for the whole month. The prevailing winds were W. with occasionally N. and N. W. winds for a day or two, and sometimes they were very high for this season of the year. It continued very dry and fine until the middle of the month, when we had some thunder, and on the 16th some heavy rain, which continued, with short intervals of intermission, until the end.

ARTICLE XV.

Huddersfield New Infirmary.

We congratulate the friends of this charity, amongst whom our esteemed correspondent, Dr. Walker, is conspicuous, on their exertions in this benevolent cause being crowned with signal success. The first stone of this Infirmary was laid on the 29th of June last. From the account we have received, of the plan of the building, we are inclined to think that in external beauty, and excellence of internal arrangements, it will vie with most institutions of a similar kind in the kingdom. The erection will be of cleansed ashler, the most handsome and durable stone which that part of the country affords. The style is of the Grecian Doric Order, and is extremely chaste. The dispensary will occupy the south wing, and the fever wards, the north. In the former will be nine wards, calculated for upwards of forty beds; and in the latter will be four wards, in which thirteen patients can be accommodated. The principal front will be to the east, aud the medical officers will have their apartments on the ground floor. An extensive corridor will communicate with all the rooms in the building, which is extremely well qualified to admit of free ventilatiou. The site chosen for the erection, is a gentle eminence at a short distance from the town. The donations to the building amount to nearly £10,000.

ARTICLE XVI.

Parochial Returns of Births, Marriages, and Burials, that have been registered in the several parishes of the City and Suburbs of Worcester, including those of the several congregations who dissent from the Established Church, between the 1st of April and the 1st of July, 1829.

Births, 266; Marriages, 82; Burials, 166.

N. B.—In the Parochial Returns of the past year, there are two months wanting, owing to the difficulty in obtaining the returns, which, for the future, will be obviated.

The following paragraph was omitted in Dr. Newell's paper, in the last number, and should have come in before the one commencing five lines from the bottom of page 249.

The left arm and hand, from the fingers upwards, with their bones, muscles, and integuments, were also reduced to ashes; nor could the wedding ring, which it was known she wore upon one of her fingers, be found, although it was searched for. It had probably been melted, and had escaped into some of the interstices of the hearth or hearth stone.

NOTICES AND ACKNOWLEDGEMENTS.

Communications have been received from Dr. Baron, Gloucester; Dr. Darwall, Birmingham; Dr. Newell, Cheltenham; Dr. Walker, Huddersfield; Dr. Jones, Kidderminster; Mr. Snow, Kidderminster; and Mr. Dangerfield, Bromyard.

The Sixth Number will be published on the 1st of November, and the succeeding Numbers Quarterly.

All Letters and Communications, addressed, free of expense, (under cover,) to the Editors, at the office of the Worcester Journal, will receive immediate attention.

THE MIDLAND

Medical & Surgical Reporter,

AND

TOPOGRAPHICAL AND STATISTICAL JOURNAL.

HOMO, NATURÆ MINISTER ET INTERPRES, TANTUM FACIT ET INTELLIGIT, QUANTUM, DE NATURÆ ORDINE, RE VEL MENTE OBSERVAVERIT; NEC AMPLIUS SCIT, AUT POTEST.—BACON, NOVUM ORGANUM.

No. VI. NOVEMBER, 1829.

Collections, with Remarks, upon DIABETES.

BY JONAS MALDEN, M. D., WORCESTER.

SPARSA COLLIGERE.

IT is a good thing, in the prosecution of any science, occasionally to revert our eyes, and to see what those who lived before us have written and done upon the same subject. It is entertaining to discover how often similar opinions have at different times been entertained, and how near the conjectures of the speculative have approached to the subsequent discoveries of more cautious investigators of truth. It is lamentable to remark how often knowledge has been stationary, because authority has been paramount, and to perceive the extent to which the "imitatores servile pecus," could propagate the errors of great men; but at the same time, we are frequently gratified by discovering that the hints thrown out by one writer, have afforded materials of productive thought and experiment to another; and that sometimes even the most fanciful hypothesis has led accidentally to the establishment of important facts. By a free access to the recorded knowledge of our ancestors, the living and the dead are, as it were, brought into consultation together; we deliberate with them before we proceed to original inquiry or experiment, both to ascertain what ground they have cultivated, and what they have left barren; and although sometimes we shall only find by consulting them what a thing is not, the field of subsequent inquiry is thereby narrowed, and we more readily discover what it really is.

Much that has been written upon different medical topics, in various countries, at different times, is scattered through so many volumes, and sometimes so digressively introduced in works

where we should not expect the matter to be treated, that extensive and laborious reading, with leisure and fondness for researches of this kind, is necessary to enable a writer to collate, on any subject, all that is interesting or valuable. But if only part of these scattered materials can be brought together into a small compass, and under one view, much entertainment and instruction may be afforded to the reader, and much trouble saved to the future investigator. With this hope I have undertaken the labour of tracing, however imperfectly, the history of that singular affection, Diabetes, through the writings of ancient and modern physicians; a disease which has probably been considered more rare than it really is; which is very often, I may say generally, fatal; which is so peculiar in its assemblage of symptoms; and concerning the nature of which the medical world is still divided. I have been induced to select this disease, in consequence of having formed some opinions respecting it, not altogether new, but which have led to the successful treatment of it, and derive support from the present state of our knowledge upon the subject of Vital Chemistry.

Diabetes, that is, an immoderate flow of urine, accompanied with wasting of the body, is not described by Hippocrates, although in the Coacæ Prænotiones, (576) he pronounces "a dilute and white urine persisting through chronic diseases, a bad sign, making the crisis difficult and unsafe."

Aretæus (De sig. et caus. morb. diut. lib. 2, cap. 2,) defines it as a colliquation of the flesh into urine. He says that it is a rare disease, and closely allied to dropsy;* that it is long in forming, but when once established, it ends rapidly in death. "Sitis intoleranda est, potus copiosus, multitudini tamen lotii non respondens; copiosius enim lotium redditur, neque eos quisquam neque a potu neque a mictu inhibere potest." When the disease has continued a long time, "califactio parva quidem, sed mordax visceribus inhærens exoritur, abdomen habent rugosum, venas extantes, totum corporis habitum gracilem, quando et *urinæ profluvium* et sitis jam aucta insignitér sunt."

The disease is briefly alluded to by Celsus, (lib. 4, cap. xx. sèc. 2,) "At cum *urina super potionum modum etiam sine dolore profluens maciem et periculum facit*, si tenuis est, opus est exercitatione et frictione, &c."

Alexander Trallianus, (lib. 9, cap. 8,) thus describes Diabetes; "Diabetes appellatur quum urina immoderatius excernitur frequenter simulatque potum qui assumitur; quale etiam lienteriâ affectis accidit, ut cibi excernantur et ne paululum quidem in ventriculo evinci alterarique et corpus nutrire possint: Quare aliqui non Diabetem modò affectum nominant, sed etiam in

* "Nam peritonæum receptaculum est ascitis, nec defluvium habet, sed illic permanens exundat; in *diabete* verò idem est a patiente lapsus humoris, eademque colliquatio: in renes autem et vesicam exeundo fertur effusio."—De Morb. diutur. curatione, lib. 2, cap. 2.

urinas profluvium, eò quòd potus statim profluit. Quoniam vero immoderatè ægri sitiunt quum humidum omne excernatur, affectum etiam Dipsacum nuncuparunt."

This notion of the drink passing unchanged through the urinary passages in Diabetic patients, was a very prevalent opinion amongst the medical writers of this date. Paulus Ægineta, (lib. 3, cap. 45,) makes this supposed fact to constitute the specific character of the disease. "Diabetes velox est eorum quæ bibuntur transitus, ut talia minguntur qualia pota sunt."

It is to these descriptions that Cullen alludes in his Nosology, in a note upon Diabetes—"Quod observatores quibus Diabetis exempla (ante Willisium) occurrebant, vel negligentes vel malæ fidei fuissent suspicor; cum plurimi eorum tam *incredibilia, de potu in Diabeticis per renes transeunte prorsus immutato narrant.*"

It appears, then, from the foregoing extracts, that the ancient medical writers, from the time of Aretæus, were aware of the existence of this singular disease, but that their notions of its nature, and descriptions of its symptoms, were remarkably vague, conjectural, and inaccurate; and that in this disease, at least, they have not displayed their often vaunted superiority over the moderns, in the closeness of their observations of symptoms, and the minuteness of their descriptive details.

The almost constant sweetness of the urine, a most prominent and obvious feature of this disease, was not noticed by any writer prior to our countryman Willis.

Willis was the cotemporary of Sydenham, and published a distinct treatise on Diabetes, to which, from the sweetness of the urine first noticed by himself, he added the epithet Mellitus. Some continental writers afterwards, taking their descriptions from his work, called it Diabetes Anglicus.

He observes, that an ill sort of diet, and especially a daily and immoderate drinking of cider, ale, or wines which are acid; sometimes, also, sadness or long sorrow, as likewise convulsions and other depressions, and disorders of the animal spirits, are causes of the disease. He knew an instance of one person, who drank Rhenish wine as his ordinary drink for twenty years, having so severe an attack of the disease as to die of it in a month. He says that both reason and experience contradict the use of astringent remedies, while they justify the use of alkalies, lime, and hypnoties or sleepy medicines. The case of a nobleman is given, who had the disease two or three times apparently removed, by a regular milk diet, some simple remedies, *an anodyne at night*, with the use of lime water."*

Sydenham, in his letter to Dr. Bradey, in which he gives an account of the epidemic diseases, from the year 1675 to 1680, incidentally mentions diabetes as a sequela of ague in aged persons; but it is remarkable that he makes no mention of the sweetness of the urine, although he must have been well ac-

* See Rollo on Diabetes, p. 356.

quainted with Willis's work. "It sometimes happens, though very rarely, that the aged, after having been long afflicted with intermittent fever, and weakened by improper bleeding and purging, are seized with a diabetes, though the intermittent be perfectly cured; for their blood being by this means so impoverished, *as to be wholly unable to assimilate the juices received into its mass*, they pass off crude and undigested by the urinary passages; and in consequence of the large quantity of urine which is voided at every evacuation of this kind, the strength is gradually impaired, and they become greatly emaciated, the substance of the body being, in a manner, washed away. The indications of cure in this case, and in every diabetes, however occasioned, are to enrich and strengthen the blood, and to stop the preternatural discharge of urine. The patient's diet should be food of easy digestion, as veal, mutton, and the like; he *must forbear vegetables and fruits of all kinds*, and drink Spanish wine at meals."

Morton, in his Phthisiologia, (book i. chap. 8,) treats of a "consumption from a diabetes, or too great a flux of urine." "A diabetes," he says, "is commonly called a dropsy of the chamber-pot, and it is a continual flux of the nutritious juice running down through the kidneys, which, for the most part, happens to those who are very thoughtful, and to such as are drinkers of French wines and diuretic liquors. Whereupon the urine, *(by reason of the great quantity of new chyle which flows to it, and mixes itself with it,)* being deprived of its saltness, becomes *sweet*, even like *honey*. By this continual *efflux of the chyle*, the blood is impoverished, and thereupon the strength of the patient grows extremely languid. By the burning flame of the blood, a preternatural heat is kindled in the solid parts, by which the nerves are weakened, and upon that, convulsions, a giddiness, and other affections of the nerves do follow; and at length the muscular parts being deprived of their nutritious juices, do fall into an atrophy or consumption."

His third history in this chapter is so remarkable, as describing the completely formed disease in infants, from the irritation of teething, and likewise the successful treatment of it by the alternate exhibition of rhubarb and an anodyne, that I cannot deny myself the pleasure of transcribing the whole of it. "Mr. Wheeler, living in Prince's-street, though he has now three girls living and well, yet he lost all his sons, who were taken off in their infancy (to wit, as soon as they began to breed their teeth,) with a consumption from a diabetes. As for the name of the distemper, that he was ignorant of; but when he observed that he lost all his sons in the same manner, and that they were extremely emaciated, with a continual and unquenchable thirst, and a strange flooding of urine, he at length asked my advice for his fourth, who, at that time, was breeding of his teeth; and he began just like the three former that were dead, to be very thirsty, and to make water at the same immoderate rate that they

had done, whereby his flesh was become very lank, and a hectical heat began to arise. So being confirmed in my opinion by so demonstrative an argument, as the *sweetness of his urine, being like honey*, I pronounced it a consumption from a diabetes, caused by the breeding of his teeth, which could not possibly admit of a perfect cure till the child had bred all his teeth. Within the space of a month or two, the poor infant seemed to have a hippocratical face, and to be reduced to that degree of a consumption, as to be come to the last scene of his tragedy, for that he laboured under a colliquation, as well by a looseness as a diabetes, though he had no cough nor any other affection of his lungs. However, for the present relief of the symptoms, I ordered a milk diet to be strictly observed, and gave orders that for his thirst, he should drink nothing but milk mixed with Islington waters, all the summer; by which means, his thirst, and the flux of his urine, seemed to be somewhat abated, and his flesh to be recovered. But the distemper returning by uncertain intervals, with a remarkable colliquation and expense of the humours, as well by stool as by the urinary parts, to wit, as often as he bred any new teeth, according to the prognostic which I at first named; at length, I ordered him six, seven, or eight, grains of rhubarb, to be taken every morning, and a little diacodium at night when he went to sleep; to the constant use of which remedies, I left the child, and he persisted in the use of them for two years at least, that was till all his teeth were cut, by which means he continually gathered strength and flesh, and grew better every day, though he was in some measure troubled with a thirst, and too great a flux of urine, till the time that he had got all his teeth; but now, being four years old, he enjoys his perfect health, and is a lusty boy as if he had never been troubled with any distemper."

The opinions of Mead upon this disease are well known. He is remarkable for two things; first, for having laid it down, ex cathedrâ, that diabetes was invariably the consequence of diseased liver; and secondly, for being the first writer who pointed out cutaneous absorption as a probable source of a large qnantity of the water voided by the kidneys.

In his mechanical account of poisons, when discoursing on the poison of the viper, he has occasion to treat incidentally of jaundice, from which he makes the following digression. "There is another disease, which, though it be thought to belong to another part, yet is, indeed, so much akin to the jaundice, that it may be properly mentioned on this occasion, I mean the diabetes; for this is not, as physicians have commonly judged, a distemper of the kidneys, *but of the liver*, proceeding likewise from a vitiated mixture of the bile. It happens most frequently to those who, without due exercise, indulge themselves in drinking vinous liquors, and then quench their thirst arising from these by too great a quantity of such as are cooling. By such ill-timed heating and cooling of the humours of the body, the natural proportion of the salt in the bile, by which its oily part is incorporated with

the water, is not sufficient, now the water over-abounds, to preserve the mixture; so that a great proportion of this, together with some of the thinnest of the oil, will be discharged by the kidneys, and the urinary ducts will be greatly enlarged, by a constant afflux that way; by which means the thicker oily particles are left in a degree of coagulation in the smaller tubes of the liver, and are there formed into a hard fatty substance. The dissection of those that have died of the diabetes, proves this to be so, *for I have always found a steatomatous collection in their liver*, in appearance not unlike to what is often discharged by stools in a confirmed jaundice, but of a harder consistence. As to the *sweetness* of the urine, *this is all bilious;* for the water of the bile separated from its salt, is sweet. Ox-gall, by a chemical distillation, yields four parts in five of water.* This I have observed to be fragrant as if perfumed. The urine in the beginning of a jaundice often smells; and in a diabetes the flux is usually lessened towards the latter end of life, and the water is as bitter as gall; plain indications of a like origin of two distempers seemingly very different. Neither can I omit to take notice, that the cure of a diabetes confirms these remarks; for this is chiefly done by supplying the blood with a quantity of fixed salt, particularly such as is contained in lime water, and in that of the hot well at Bristol, which is, indeed, a natural lime water."

Thus did this learned man permit himself to generalize hastily from a few facts, and then to become so enamoured of his theory, as to force into its service every analogy, however fanciful or remote. There can be little doubt but that a large proportion of diabetics have diseased, or at least, disordered, livers; but something more than a coincidence is required to establish philosophically the relation of cause and effect.

In another part of his works, (Monita et Præcepta Medica, cap. ix. sec. 2,) he recommends another medicine; "aluminated whey, which is made thus—take four pints of milk, boil it a little, and turn it with three drachms of alum. If four ounces of this be taken three times a-day at least, it will contribute much towards stopping that flux."† He then proceeds, "now if it be asked whence can so great a quantity of water be supplied, as is discharged in this distemper? my answer is, that we find by easy experiments, that certain bodies sometimes attract and imbibe the watery particles floating in the air, whereby they are more or less increased in bulk and weight. Thus the salt of tartar exposed to moist air, increases so prodigiously, that a single

* Vide Haller. not. in Boerhavii Institut. Med. § 99.

† This was the remedy of the celebrated Empiric Dover, which he strongly recommends. "There needs nothing more to be done for the cure of this disease, (diabetes,) which has hitherto puzzled physicians in all ages, than to drink a quarter of a pint of alum posset drink, first and last, made as strong as your stomach will bear it. This I have experienced for forty-five years, and do not remember that it ever failed."—Dover's Legacy, p. 30.

pound of it, duly calcined, swells to ten pounds weight. *Therefore, why may we not say that some of the vapours of the ambient air enter into the human body, when properly disposed to receive them;* and these being added to the serosities which are to be conveyed to the kidneys, and there secreted, increase their quantity? Upon which account, as cold and moist air is very improper for persons in this distemper, so they ought, if practicable, to go into a warm and dry climate."

The next writer on this subject, worthy of notice, is Dr. Dobson, of Liverpool, who published a case, with experiments and remarks, in the 5th vol. of Medical Observations and Inquiries, p. 298.

"Peter Dickenson, thirty-three years of age, was admitted into the public hospital, in Liverpool, October 22, 1772. His disease was a confirmed diabetes; and he passed twenty-eight pints of urine every twenty-four hours. He had formerly enjoyed a good state of health; nor did it appear what had been the remote causes of this indisposition, except that he came from a part of Lancashire where agues were rather frequent: that about eleven years before, when a soldier, and quartered in Essex, he had a quartan ague for twelve months, and that after he was dismissed from the army, he had sometimes been exposed to hard labour when very hungry. The disease had now continued for more than eight months.

"He first observed that he was very thirsty; that he drank large quantities of water, and made large quantities of urine. *There was a great uneasiness about the stomach, with a perpetual gnawing sense of hunger.* The palms of his hands and the soles of his feet were frequently hot, and the heat was generally increased in the evening and the beginning of the night. He lost strength and flesh; his skin was always dry; and his hands, from being plump, and soft and moist, became wasted, dry and hard.

"When he came to the hospital, he was emaciated, weak and dejected; his thirst was unquenchable, and his skin dry and hard, and harsh to the touch, like rough parchment, the cuticle being raised in a kind of small branny scales. The pulse was generally from 80 to 90. But at irregular intervals of 10 or 15 days, there were feverish paroxysms; his nights were restless, with much heat and a parched tongue; and the pulse, at these times, rather hard, and from 115 to 126.

"He had, sometimes, for five or six days together, the symptoms of an ascites; the belly swelled, and there was an evident fluctuation in it. This dropsical disposition appeared and disappeared three several times, and without either aggravating or relieving the other symptoms of the disease. He complained much of a disagreeable sour taste, which was constant, and not proceeding from temporary eructations. This sour taste came on about four months after the commencement of the disease, and went away as the patient grew better.

"The urine had a sweetish smell, and was very sweet to the taste. It had, sometimes, a degree of opaqueness, much resembling a dilute mixture of honey and water; it was more frequently, however, perfectly transparent, and almost colourless.

"This patient took, for a considerable time, every 24 hours, from 12 to 14 pounds of solid and liquid nourishment, and the same quantity of drink.

"He continued in the hospital seven months, during some part of which time, he was so far recovered, as to pass only 14 pints of urine every 24 hours; his skin became moist and soft, and he regained flesh and strength."

To what this partial amendment might be attributed, cannot be collected from Dr. Dobson's treatment of the case, as the medicines tried were numerous, and frequently changed and varied. They were bark in substance with small doses of rhubarb; decoction of bark with vitriolic acid; cold infusion of bark, Dover's powder, alum whey,* lime water,* antimonials combined with tinctura Thebaica, the warm bath, tincture of cantharides! rhubarb, and infusion of senna joined with rhubarb.

His diet is not mentioned, but his beverage was as diversified as his medicines, being barley water, rice water, lime water and milk, lime water alone, sage, balm, or mint tea; *small beer*, simple water, and water acidulated with sulphuric acid.

Dr. Dobson has annexed to his history of this case, a series of experiments, the result of which I will briefly state.

Exp. 1.—A portion of the urine set by in an open vessel, in November, when the highest range of the thermometer was 52, fermented, giving out, in a short time, a vinous odour, and afterwards a "keen smell of vinegar."

Exp. 2.—The blood taken from the arm, exhibited the following appearances; the crassamentum had a slight buff, was firm, and in the usual proportion to the serum. "The serum was opaque, and much resembled common cheese whey; it was *sweetish*, but I thought," says Dr. D. "not so *sweet* as the urine."

Exp. 3.—The urine did not coagulate at a boiling heat.

Exp. 4.—Nor on mixture with the mineral acids.

Exp. 5.—Two quarts of urine, evaporated to dryness, yielded a *white* cake, which weighed ℥iv. ℥ij. and ℈ij. This cake was granulated and friable; it smelt and tasted like brown sugar, except that the sweetness left a slight sense of coldness on the palate. It had no saltness.

Exp. 6.—The last experiment was repeated when the patient was so far recovered as to pass only 14 pints of urine in the 24 hours. "There was now a strong urinous smell during the evaporation, and the residuum could not be procured in a solid form, but was blackish, and much resembled thick treacle."

The two circumstances most worthy of remark in these experiments, are 1st, the sweetness of the serum of the blood, which

* See Dr. Mead and Dover, as before quoted.

has never been noticed by any other writer upon this subject; and 2ndly, the great purity of the sugar obtained in experiment 5. These two experiments concur in proving this to be a most exquisitely formed case of diabetes, as the sugar, after evaporation, is generally procured in these cases, in the state described in exp. 6.

It is a matter of regret, that Dr. Dobson did not subject the serum of the blood to the same test of evaporation, as he states so positively that it tasted sweet.

Dr. Dobson's general conclusion from his experiments, is this, "that diabetes is a species of imperfect digestion or assimilation," and, "that the imperfectly assimilated chyle passes off by the kidneys."*

He thus concludes his essay, "This idea of the nature of the diabetes, suggests more clearly and explicitly the method of cure; for if it is a disease of the system in general, if it is to be considered as a species of imperfect digestion and assimilation, the obvious indications of cure are to strengthen the digestive powers, to promote a due sanguification, and establish a perfect assimilation through the whole economy."

This case of Dr. Dobson's is, moreover, of value, as being the first attempt to establish a relation between the qualities of the blood and of the urine in this disease.

The celebrated Cullen has, in no instance, more clearly shewn the strong bias of attachment to system, than he has in his classification of diabetes, placing it in his class neuroses and order spasmi, the last place, certainly, where any body else would think of looking for it.

His characteristic exactness pervades the whole of his account of the disease. He says, "it is always accompanied with a great thirst, and therefore with the taking in of a great quantity of drink. This, in some measure, accounts for the very extraordinary quantities of urine voided; but still, independent of this, a peculiar disease certainly takes place, as the quantity of urine voided does almost always exceed the whole of the liquids, and sometimes the whole of both solids and liquids, taken in. The urine voided in this disease is always very clear, and at first sight appears entirely without any colour; but viewed in a certain light, it generally appears to be slightly tinged with a yellowish green, and in this respect has been very frequently compared to a solution of honey in a large proportion of water. Examined by the taste, it is generally found to be more or less sweet; and many experiments that have now been made in different instances of the disease, shew clearly that such urine contains, in considerable quantity, a saccharine matter, which appears to be very exactly of the nature of common sugar." "It is to be doubted, indeed, if there is any case of idiopathic diabetes, in which the urine is of a different kind. Though

* The opinion of Morton, see p. 372.

neither the ancients, nor in the other countries of Europe, the moderns, till the latter were directed to it by the English, have taken notice of the sweetness of the urine, it does not persuade me that either in ancient or in modern times, the urine in diabetes was of another kind." "I am persuaded that such instances are very rare, and that the other (sweet urine,) is by much the more common, and perhaps the almost universal occurrence." "I judge, therefore, that the *presence of such a saccharine matter* may be considered as the *principal circumstance* in idiopathic diabetes." "The antecedents to this disease, and consequently the remote causes of it, have not been well ascertained. It may be true that it frequently happens to men who, for a long time before, had been intemperate in drinking; that it happens to persons of a broken constitution, or who, as we often express it, are in a cachectic state; that it sometimes follows intermittent fevers;* and that it has often occurred from excess in the drinking of mineral waters. But none of these causes apply very generally to the cases that occur; such causes are not always, nor even frequently, followed by a diabetes; and there are many instances of diabetes which could not be referred to any of them. In most of the cases of this disease which I have met with, I could not refer it to any particular cause. This disease commonly comes on slowly, and almost imperceptibly, without any previous disorder. It often arises to a considerable degree, and subsists long without being accompanied with evident disorder in any particular part of the system. The great thirst which *always*, and the voracious appetite which *frequently*, occurs in it, are often the only remarkable symptoms. Under the continuance of the disease, the body is often greatly emaciated, and a great weakness also prevails. The pulse is commonly frequent, and an obscure fever is, for the most part, present. When the disease proves fatal, it generally ends with a fever resembling a hectic."

In treating of the proximate cause of this disease, Dr. Cullen remarks, "that *no topical* affection of the *kidneys* has a share in producing this disease, and that a fault in the *assimilation* of the fluids is rather to be blamed, I conclude, from hence, *that even the solid food taken in, increases the quantity of the urine voided, at the same time, with an increase of the saccharine matter above mentioned.*"

In commenting upon Dr. Mead's notion of this complaint being produced by disorder of the biliary function, he explicitly states that in *twenty cases of diabetes which he had seen, there was not in any one of them any evident affection of the liver.* "As I have already said," he continues, "I think it probable that in most cases, the proximate cause of this disease is some fault in the *assimilatory* powers, or in those employed in converting animal matters into the proper animal fluids. This I

* See Sydenham, before quoted.

formerly hinted to Dr. Dobson, and it has been prosecuted and published by him."

Dr. Cullen declines proposing any rational method of cure, on the grounds of his ignorance of the exact nature of the proximate cause, and he makes the following lamentable declaration. "In all the instances of this disease, which I myself have seen, and in several others of which I have been informed, *no cure of it has ever been made in Scotland*, though many instances of it have occurred, and in most of them the remedies recommended by authors have been diligently employed."

Dr. Home, in his chemical experiments, page 319, narrates two cases of diabetes. In both cases the disease resisted all the means of cure used. One of the patients had the disease three, the other, four years. They were bled, but the serum of the blood *was not sweet*. The urine *was sweet*, and yielded, on evaporation, a saccharine extract. The appetite in both was very great, and in one voracious. In both there was great thirst, but greatest in the one with voracious appetite. One was dismissed incurable, the other who had had the disease four years, died, and the following were the appearances on dissection. "On examining the kidneys, the left was larger than natural, and its substance softer; there was no uncommon appearance in the right kidney, except a greater degree of softness. The substance of both kidneys had *a sour odour*. The ureters were of a natural size. The coats of the bladder were stronger than common, and no lacteals could be observed about the neck of it, though some have suspected that much of the fluid is deposited in the bladder by a retrograde motion in the lymphatics.* *All the glands of the mesentery and mesocolon were enlarged, of a pale colour, and of a firm consistence.* The vascular system of the mesentery was rather large. *The liver was natural*, and had some firm adhesions to the colon. The large intestines were much loaded with hard fæces. The rest of the abdominal, and the thoracic viscera, were natural."

Dr. Home considers that the disease "arises from a defect of the *animal* or *assimilatory* process, by which the aliment is converted into the nature of our body;" for which opinion he gives the following reasons. 1st.—The remote causes are those that produce debility. 2nd.—The white chylous matter which is often secreted with the urine, shews that the vegetable part of the chyle is not assimilated. 3rd.—Sugar is found in diabetic urine, and sweet chyle is the first product of the stomachic and intestinal digestion. 4th.—Diabetic urine turns acidulous, and undergoes the vinous fermentation. Those peculiarities shew its vegetable nature.

In part of the treatment of these cases, Dr. Home anticipated Dr. Rollo, though not with equal success. For upon the suppo-

* This is an allusion to a fanciful hypothesis of Dr. Darwin, which I shall presently have occasion to mention.

sition of the disease depending upon the imperfect digestion of vegetable food, a diet of animal food was tried, and to counteract the morbid action of the stomach, septic medicines were exhibited.

Dr. Rollo* says that Dr. Home's account of the disease, was the most comprehensive he had met with, and it is obvious that it afforded Dr. Rollo many valuable hints.

Dr. Home made also some inconclusive experiments upon absorption by the skin in this disease.

Dr. Darwin's opinions on this subject are only worth noticing on account of his having introduced his favourite notion of retrograde absorption, in explanation of the rapid excretion of the urine. A supposition altogether gratuitous, and at variance with the anatomical structure of the absorbent vessels.

As to what Dr. Darwin has called mucilaginous diabetes,† it appears no other thing to me than the serous urine so often attendant upon the dropsical diathesis, containing albumen, coagulating by heat, and upon the addition of the mineral acids, and so much insisted upon by Dr. Blackall in his work upon dropsies.

Dr. Darwin anointed the patients' skin with oil, to prevent absorption of moisture from the atmosphere, which had, as before stated, been considered by Dr. Mead and others, as one source of the increased discharge from the kidneys.

Dr. Richter, of Goettingen, in his Medical and Surgical Observations, relates some cases of diabetes, which are worthy of remark, in consequence of the decidedly beneficial effect produced upon them by the use of *emetic* remedies. *In one case in particular, as often as the patient vomited from a dose of ipecacuanha, the disease disappeared for 24 hours afterwards.*

Dr. Cawley‡ gives the history of a fatal case, treated with sulphuric acid, alum, astringents, aromatics, super-acetas plumbi, opium, cantharides, cold salt bath, &c. Previously to this patient's death, his appetite for solid food *diminished*, and the sugar in the urine *decreased*.

Sectio cadaveris.—The kidneys were of the usual size, but paler and softer than natural. In their structure nothing morbid was discovered. *The liver was much wasted*, was externally of an ash colour, and had the doughy character of œdema. It was, however, perfectly free from the tumours noticed by Mead, and internally was of its usual colour. The gall bladder contained its accustomed quantity of bile. The pancreas was full of calculi. With the exception of a preternatural hardness of the right end of the pancreas, no other marks of disease could be discovered in the abdomen, and the contents of the thorax were perfectly sound.

Dr. Cawley, without assigning adequate reasons for his opinion, takes "the proximate cause of the disease to consist in a

* Rollo on Diabetes, p. 366.

† Zoonomia, 4to. v. i. p. 318.

‡ London Med. Journal, 1788, p. 286.

morbid dilatation of the uriniferous tubes, whereby they become pervious to the nutritious matter." This view of the nature of the disease, even if it afforded a fair explanation of its phenomena, which it does not, is much too mechanical to be admitted in the present state of physiological science.

Dr. Ferriar, in his Medical Histories and Reflections, p. 114, gives an account of a case of diabetes, treated successfully with bark and elixir of vitriol, a plan which has, for the most part, failed in other hands. I will give the history of the case in his own words. "Robert Backhouse, aged 45, was admitted in June, 1791. He had passed a very great quantity of urine for several weeks. At the time of his admission, the flow of urine was greatest in the night, and prevented him from sleeping. He passed from three to four quarts in the course of each night, exclusive of at least one quart in the day. His urine was whey-coloured, and of a *sweetish* taste. He was much emaciated, and troubled with a constant thirst; his tongue appeared parched, and was divided by small fissures. I directed for him a course of bark, with elixir of vitriol. In a fortnight his urine came off in smaller quantity, and soon after was reduced entirely to a natural state. He then complained of considerable heat and pain in the region of the bladder, which were removed by demulcents. He went out with a cough, and some other pectoral complaints, (for which he was desired to attend as an out-patient,) but perfectly cured of his diabetes." "The only remarkable circumstance which I could trace in the previous history of this patient, was, that he had indulged himself in drinking spirituous liquors." Dr. Ferriar, in another treatise "On the Conversion of Diseases," casually makes some important remarks upon the subject of diabetes. He says, "I shall remark, by the way, that in diabetic patients, the pathological rule respecting the conversion of determination between the *skin* and the *kidneys*, does not *always* hold good. *In two cases of diabetes, the patients have complained of profuse sweats, at a time when the discharge of urine was most considerable.* In the cases which I have seen, *dyspeptic* symptoms have *always preceded* this disorder, and it has been attended with great emaciation, and every appearance of general debility."

Dr. Peter Shee's case, (Annals of Med. 1796, p. 343,) treated successfully with camphor and kino, does not appear to me to have been idiopathic diabetes, and there is no proof of the urine having been sweet. A like doubt hangs over the cases treated by Dr. Scott, at Bombay, with mercury and nitric acid. (See Annals of Med. 1796, p. 383.)

Dr. Heberden (Commentaries, p. 141,) states that his experience in this disease had not been very extensive, but the following remarks are the result of it. "Though the excess of urine is the circumstance which has been chiefly attended to, yet, *in every case of the kind which I have seen*, the thirst has been first in time, and by far the most distressing, and what

ought rather to have given name to the distemper ;* but, in truth, they seem both to be rather symptoms of the breaking up of a constitution, and have hardly ever been known but in very infirm and old people, in whom age or distemper had so far injured some of the parts necessary to life, that death must soon have ensued, whether the patient made too much water, and was wasted in a diabetes, or made hardly any, and was bloated in a dropsy. It is not very improbable that some trivial circumstance determined the body to take on one of these two diseases rather than the other, and that the removal of either of them would do but little towards saving the patient's life." This is a revival of the opinion of Aretæus,† as to the close alliance of ascites and diabetes; and the whole passage proves that the cases of diabetes which had occurred to Dr. Heberden, had, which is very often the case, been connected with greatly debilitated habits. But this disease certainly sometimes, though rarely, comes on suddenly in young persons who had not previously shewn signs of ill health.

"If," continues Dr. Heberden, "the diabetes be, as I am inclined to think, the symptom of some other distemper, *and not the disease of any of the organs which secrete the urine*, the only useful remedies will be those which are directed to cure the principal malady, of which the diabetes is but an appendage. Accordingly, it has appeared to me, that little good was to be done with alum, the Peruvian bark, elixir of vitriol, Bristol water, lime water, a repetition of emetics, or any other medicines, which were principally calculated to recover the kidneys from their supposed relaxed state to their natural tone and firmness."

In the second volume of the Medical and Chirurgical Transactions, p. 70, will be found, "An account of a case of Diabetes, with an examination of the appearances after death," by the late Dr. Baillie. This paper was read before the Medical and Chirurgical Society, on the 3rd of February, 1795, and consequently preceded by one year the first appearance of Dr. Rollo's work on diabetes.

The following is the substance of Dr. Baillie's paper. "James Neale, a man about 24 years of age, was admitted a patient under my care, into St. George's hospital, on the 11th of June, 1794, affected with diabetes. The beginning of this disease is always extremely difficult to ascertain, because it has almost always made considerable progress before it has attracted attention. In the present case, the person was very much emaciated, and therefore the disease had existed a sufficient length of time to have affected very powerfully the constitution. His general health, before the coming on of this disease, had been good, and he had not been given to intemperance. He complained of ex-

* According to Alexander Trallianus, the disease was indifferently named Diabetes or Dipsacus. See pp. 370-1.

† See page 370.

treme *thirst*, with a *voracious appetite*, and passed about ten pints of urine at an average, in 24 hours. The urine was of a yellowish green colour, with some degree of turbidness; was free from any urinous smell, and had a strong *sweetness* to the taste. A large portion of saccharine matter, in which there were some imperfect crystals, was procured from it in several trials by evaporation.

"The patient had a considerable degree of general affection of the system attending this complaint, the skin being dry, with some heat, and the pulse being accelerated beyond the natural standard. It was generally about 90, and not unfrequently it rose above 100. Occasionally, he was much flushed in the face, and had a considerable propensity to sweating. He had a severe purging, which continued with more or less violence between three and four weeks; but this seemed to produce no change whatever on the diabetes. As diarrhœas were epidemic at this time, there was no reason to suppose that there was any connexion between the one disease and the other. At length, after a trial of a considerable variety of medicines, without any visible advantage, he was seized, on the 7th of November, with a sore throat and violent erysipelas of the face, which carried him off in four days.

"The first medicine which was ordered, was decoction of bark with diluted vitriolic acid,* and some alum whey in the evening.† This was continued for about ten days, without any apparent advantage.

"A trial was next made of a powder, consisting of three parts of soda phosphorata and one of ferrum vitriolatum. The dose of the powder was a scruple, and it was ordered to be given every four hours. This plan was continued between two and three weeks. Occasionally, for a day or two, the urine was considerably diminished in its quantity, but it would return again to its usual standard; it was never altered in its quality of sweetness as far as I could observe.

"The variety in the quantity of the urine, I had no reason to believe depended upon the medicine, because the quantity varied in the trial of other medicines, some of which were not given with the view of stopping the diabetes. I was led to order this medicine, not from any conjecture formed about the nature of the disease, but merely because I had heard that it had once been successfully employed in a similar case."

Extract of cicuta (conium,) was next tried, for three weeks, a scruple being given in 24 hours. It produced much giddiness; and during this time there was some variety in the quantity of urine, but upon the whole no real advantage was gained.

"Mercury was then ordered, and the strong mercurial ointment was rubbed in every night in considerable quantity. Two drachms were frequently rubbed in at once, and calomel was also

* See Dr. Ferriar's case. † Dr. Mead.

given in pretty large doses by the mouth. The trial of this medicine continued for six weeks. Salivation could never be excited, and the mouth was only made a little tender. No permanent change was produced on the quantity of urine during the use of the mercury, but it was subject to some variety as in the other trials. The patient seemed, however, to recover a little from his emaciation. A large blister was also applied to the loins, and kept open for a short time, but the disease was not affected by it. Shocks of electricity were sent for several days through the loins, but without producing any change on the diabetes. The erysipelas, of which he died, coming on during the trial of the electricity, it was not continued long enough to form a proper judgment of its effects." "I was led," says Dr. Baillie, "to the trial of mercury and electricity, not from any plausible conjecture about the probability of their success, but merely because they are known to have a powerful influence on the human body, and no medicines which had been commonly employed in this disease, had been of real advantage. While the patient had the diarrhœa, opiates were frequently given in *small* doses, but these produced no change on the diabetes."

Dr. Baillie makes no mention whatever of the diet of the patient. After his death he took a very early opportunity of examining the body.

"*Sectio cadaveris.—Kidneys.*—Both kidneys were of the ordinary size and shape. When the proper capsule was removed from each, the veins upon the surface were much fuller of blood than usual, putting on an arborescent appearance. When the substance of both kidneys was cut into, it was observed to be every where much more crowded with blood-vessels than in a natural state, so as in some parts to approach to the appearance of inflammation. Both kidneys had the same degree of firmness to the touch as when healthy, but I think were hardly so firm as kidneys usually are, the vessels of which are so much filled with blood. A very small quantity of a whitish fluid, a good deal resembling pus, was squeezed out from one or two infundibula in both kidneys, but there was no appearance of ulceration in either. Upon first tasting the fluid, I thought it had some degree of sweetness, but upon a repetition I was doubtful. The artery and vein passing into the cavity of each kidney, presented exactly the natural appearance. A lymphatic discovered passing from one of the kidneys, was of the usual size, had the common valvular appearance, and was empty. The nerves of the kidneys, the ureters, and renal capsules, were all natural and healthy. There was no diseased appearance in the urinary bladder; the inner membrane was rather more crowded than usual with small blood-vessels. I could perceive no lymphatic vessels at the neck of the bladder, but these are generally too small to be easily discovered.

"*Stomach and Intestines.*—In cutting into the stomach, some quantity of a green pulpy matter was found, and there was also

the same kind of matter in the duodenum. The matter in the upper part of the jejunum was of the same sort, but much more fluid. The structure of the stomach was quite sound. In some parts of its inner membrane, there were little red spots, produced by an accumulation of very fine blood-vessels; but this appearance is very common in other cases. There was a greater determination of blood than usual to the whole track of the small intestines, but their structure was every where sound. The great intestines did not exhibit this appearance, but were distended with air.

"The mesenteric glands were all healthy except one or two, which contained a good deal of an earthy matter; no lacteal vessels were any where visible.

"*Liver.*—The liver was somewhat of a smaller size than usual, but its structure was perfectly natural, The gall bladder was flaccid, and contained a small quantity of green bile. The biliary ducts were quite sound.

"The spleen was a little softer than usual, but this change in it is very common upon other occasions; its coats, at one part, were converted into a soft cartilage. The pancreas was quite healthy in its structure." After giving this account of the appearances upon dissection, Dr. Baillie proceeds to take a view of the different theories which had been formed about the cause of the disease.

With regard to Dr. Mead's opinion,* he concludes, from the foregoing case and others, that "in those cases of diabetes where the liver has been discovered to have been diseased, it should be considered as an accidental occurrence, and not that there had been any necessary connexion between the one disease and the other."

He then proceeds to the consideration of the theory of Cullen and Dobson,† "That diabetes depended on the chyle not being assimilated into the nature of the blood, but that circulating in the blood-vessels as chyle, it was strained off by the kidneys in the form of sweet urine." To this Dr. Baillie objects, 1st, that chyle does not contain so large a proportion of saccharine matter as to be capable of communicating a sweet taste to the urine when mixed with it. "In two dogs," he says, "which were killed on purpose for making this experiment, I tasted the chyle. In the chyle of the one I was not sensible of any sweetish taste. The chyle of the other seemed to me to be sweetish; but this taste was so very slight, that when a part of the chyle was mixed with an *equal* proportion of water, the mixture was perfectly *insipid*. These two dogs were fed upon animal food: but Dr. B. tasted the chyle of a dog which had been fed upon bread with butter very thinly spread upon it. This chyle seemed a little sweeter than in one of the former experiments; but if this chyle

* See p. 373.

† This was also in part the theory of Morton, see p. 372.

had been mixed with an equal proportion of serum or of urine, it would not have imparted the slightest degree of sweet taste to them. "The chyle in man cannot be supposed to differ from that in a dog, as digestion is precisely the same kind of process in both species of animals; it is therefore evident that the sweetness of the urine in diabetic patients, cannot arise from a mixture of chyle not assimilated into the nature of blood, and being strained off by the kidneys along with the urine."

Dr. Baillie further remarks, that no stress ought to be laid upon the slight degree of sweetness in the serum of the blood of Dr. Dobson's patient; for the serum of the blood of other diabetics, has not only been found free from sweetness, but has had the saltish taste of common serum: besides, it is obvious that the sweet taste of the serum in Dr. Dobson's case, could not arise from the mere mixture of unassimilated chyle.

2ndly.—Dr. Baillie objects to Dr. Dobson's theory, that according to it the sweetness of the serum ought to be as uniformly present in diabetic patients, as the sweetness of the urine, as according to the theory, the sugar of the urine is derived directly from the blood. Now the sweetness of the serum of the blood is a very rare occurrence indeed.

Dr. B. then proceeds to the refutation of Dr. Darwin's singular hypothesis before mentioned, "that diabetes is produced by the chyle passing by a retrograde motion of the absorbent vessels, from the lacteals into the lymphatics of the kidneys or bladder." As far as regards the mixture of the chyle with the urine as a cause of its sweetness, the rejection of Dr. Dobson's theory is the rejection of this. And there has been no proof yet given of the chyle of diabetic patients being sweeter than that of persons in health. As to the retrograde action of the absorbents, this is also without proof, and contrary to the contrivances in their structure, and their obvious mode of action; besides, no anastomosis has been demonstrated in the human body between the lacteal vessels and the lymphatics of the kidneys or bladder; an anastomosis, which, if Dr. Darwin's opinion were correct, one would expect to be particularly observable in a person who had been long affected with diabetes: whereas, in Dr. Baillie's case, the lacteals were so small as not to be visible. One lymphatic only could be discovered belonging to one of the kidneys, and the lymphatics at the neck of the bladder were not to be observed.

Neither is this fanciful theory necessary to explain the rapid excretion of urine after a quantity of aqueous fluid has been drunk; as the absorbents of the stomach and intestines convey their contents at a very quick rate to the thoracic duct. Dr. Baillie says that he had seen some lacteal vessels empty themselves almost instantaneously, when looking upon the mesentery of a dog, which had been killed a few hours after taking food: and some experiments made lately upon the stomachs of living animals, shew that watery fluids can be taken up by the absorbents

of the stomach in a very short time, and carried into the thoracic duct. In Mr. Carlisle's experiments, above a pint of water was taken up from the stomach in less than twenty minutes, and the absorbents at the small curvature of the stomach passing towards the thoracic duct, were observed to be turgid with a transparent fluid.*

Moreover, the action of the kidneys may be increased by sympathy with the stomach, particularly as the whole frame sympathises with that organ recently supplied with food, long before the conversion of the aliment into chyle. Again, this subject appears to Dr. Baillie to have been misunderstood; for what has been last drunk is not to be supposed to be evacuated, but a certain quantity of water is separated from the accumulated store in the blood-vessels. So that although the *evacuation* be rapid, the *passage* of the water drunk does not take place so speedily as has been imagined.

Dr. Cawley's opinion is next considered, which attributes the disease to a relaxation and enlargement of the tubuli uriniferi, allowing the chyle to pass with the urine. Dr. B. had already proved that the mere mixture of the chyle with the urine, would not impart the characteristic sweetness of the disease; and he further remarks, that tubuli uriniferi so enlarged as to permit the chyle to pass, would not prevent the admission of the red globules of the blood, which the urine in diabetes never contains. In Dr. Baillie's case, the tubuli did not appear at all enlarged. Dr. Baillie declines hazarding any theory of his own, but concludes by recommending it to the future observation of others, to determine how far the apperrance of the kidneys observed in his case may be constant in diabetic patients; "and therefore, whether diabetes may not probably depend, in an important degree, although perhaps not entirely, *upon a morbid action of the kidneys themselves.*"

Having now reviewed all that has been advanced of importance, or by men of eminence, upon this disease, before the time of Dr. Rollo, and as this communication has already occupied too large a portion of the Journal, I shall postpone the consideration of Dr. Rollo's treatise, and any further observations upon this singular malady, until the publication of a future number.

* If the opinion of the ancients, revived by Magendie and others, of the absorbent power of the veins be correct, the difficulty is still further diminished.

J. M.

ARTICLE II.

Moral Statistics of Worcester.

And here we cannot help remarking what a deception we suffer to pass on us from History. It celebrates some period in a nation's career, as pre-eminently illustrious for magnanimity, lofty enterprise, literature, and original genius. * * * And we thoughtlessly admit on our imagination this splendid exhibition, as representing, in some indistinct manner, the collective state of the people in that age! The ethereal summits of a tract in the moral world, are conspicuous and fair in the lustre of heaven, and we take no thought of the immensely greater proportion of it which is sunk in gloom and covered with fogs.

Foster on Popular Ignorance.

In the spring of the present year, the Committee of the "Society for the Diffusion of Useful Knowledge," made an attempt to procure, from different parts of the country, a variety of important particulars relative to the state of morals and education, the agriculture and manufactures, and the general statistics, of each district. With this view, they very widely distributed a circular, accompanied by a series of questions; one portion of which was headed "Means of Education," and included enquiries respecting the populatiou and extent of the district; the kind of knowledge of most practical utility to its inhabitants; the number and kinds of schools for the different classes of society, and the number of scholars instructed in each; together with the number and extent of the public libraries, mechanics' institutes, philosophical and literary institutions, reading societies, friendly institutions, and other associations formed for the purpose of accelerating the advance of society, and particularly the lower classes, in the career of improvement.

As it is part of the original plan of this publication, to give insertion in its pages to every thing that tends to illustrate the statistics of the midland counties, we have embodied in the following article, such information as we were able to obtain in reply to these questions, in the city of Worcester and its suburbs.

In the parliamentary returns of 1821, the population of the city of Worcester aud its suburbs, was stated to be 19,160; the number of houses, 3,452, and of families, 4,258, making an average of nine persons to every two families.

The area of the city, as measured in 1779, is 293 acres, 1 rood, and 20 perches. In a History of Worcester,* published early in the present year, and evidently proceeding from a well qualified and judicious pen; the population of the city, and of the

* This is not a new edition of that formerly issued from the same press, (Mr. Eaton's,) but entirely a new work. It has afforded us much assistance in preparing these remarks.

suburbs, to the extent of half a mile round it, which would include a total area of about four square miles, is estimated at 24,000.

Of the means of education, accessible to the lower classes of society, within this district, we have found it very difficult to obtain accurate information; but the view presented by the following details, will, we believe, be found sufficiently correct for general purposes.

The number of infant schools is two; the parochial one of St. Clement's, established under the auspices of the Rev. J. Davies, and the public infant school, in Friar-street, supported by subscriptions, and opened for the reception of children in March last. The former contains about 80, and the latter about 120 scholars.

There are four endowed schools, the College, Queen Elizabeth's, Bishop Lloyd's, and Mrs. Hook's. The number of scholars on the foundation in the whole of these, is limited to 100; and those not on the foundation, as they generally belong to a higher class in society, cannot be fairly included in the present estimate.

The national schools afford instruction to about 430 children; that for boys, in Diglis-street, receiving 250, and that for girls, in the Bull entry, 180.

The St. Clement's, St. John's, and the united parochial Sunday schools, in connection with the Church of England, contain about 700 scholars. Those attached to the various dissenting chapels, comprise about 1,300; besides which, about 1,000 children receive instruction in schools at the village stations connected with these places of worship. The expenses attending these, are chiefly defrayed from the funds of the parent schools in the city; but the number of their scholars cannot be included within the district to which this paper has reference.

In the Lancasterian school, in Clap-gate, 206 boys were on the books, at the date of the annual report, in June last. The funds of this valuable establishment are in a very depressed state, and it is to be hoped that the zeal and exertions of all true friends to the best interests of society, will, ere long, shed upon it a reviving influence, and restore that state of prosperity which it so eminently merits.

The girls' school of industry, in the Bull-entry, has for its object, not only to afford the usual instruction in reading and writing, but also to teach plain needle-work. The report for the present year, states that there are 86 scholars. In the school-room of this establishment, a female adult school is held every Sunday afternoon; there are 67 on the books, but the average attendance does not exceed 23.

Of the "dame schools," and the various receptacles for the children of the lower classes, at small weekly sums, it is impossible to form, from any data that lie within our reach, more than a vague estimate. They are very numerous, and cannot, we should think, contain less than from 600 to 800 children.

The schools for the higher and middle classes, may be stated at 25; and the number of pupils, boarders and day-scholars included, may, perhaps, be fairly averaged at 35. This will give a total of 875. It is true that many of these pupils are boarders, sent from distant places; but it must be recollected that many persons residing in Worcester, have their children educated at a distance from home; and the one class may, perhaps, be not unfairly assumed to counterbalance the other.

These statements are chiefly drawn from official reports, and other authenticated sources; and it appears that about 4,000 children,—one-sixth of the estimated population, are under a course of instruction of some kind; and upwards of three-fourths of them belong to the lower classes* of society.

In the returns of 1821,† the total population of Great Britain, not including the Army, Navy, &c., was stated to be 14,072,331, but the ages of 12,487,377 only were returned, leaving a deficiency of about one ninth. Founding our calculations, as we may with fairness, on those whose ages were returned, we find that 3,020,595, rather more than one-fourth, were between five and fifteen years of age; and we consider that we may fairly take these, as the proper subjects of this article; the number of those under five, who, although receiving instruction, are excluded from this calculation, being allowed as a set off against those who, approaching their fifteenth year, have left school, and entered into apprenticeships, &c. Estimating, then, the children of Worcester and its suburbs at 6,000, it would appear that about one-third are not provided with any means of education; but we should rather suppose that we have under-rated the numbers taught in the Dame Schools, than that so large a number are actually destitute of instruction. The data, however, on which that part of our estimate is founded, are necessarily very scanty, and amount to little more than mere conjecture.

* This term is not used invidiously. "Industrious classes," "Operatives," and other terms have been suggested: but they are ambiguous, and do not appear to possess any real advantage over the plain and clear expression we have used. We can only say, with Foster, in the Preface to his Essay on Popular Ignorance,—"Any benevolent writer on the subject, would wish he could treat it without such frequent use of the phrases, 'lower orders,' 'subordinate classes,' 'inferior portion of society,' and other expressions of the same kind; because they have an invidious sound, and have, indeed, been very often used in contempt. He can only say that he uses them with no such feeling; that they are employed simply as the most obvious terms of designation; and that he would like better to employ any less ungracious ones that did not require an affected circumlocution."

† The only practical digest of these returns, to which we, at present, have access, is contained in the "Companion to the Almanack" for 1828; one of the most valuable, yet cheap, compendiums of useful information, to which this age, so prolific of books, has given birth.

There is only one public library, which was founded about 40 years ago, by the minister of the Independent chapel, and the books are still kept in a room over the vestry. It contains about 4,500 volumes, and does not receive that extensive patronage which the importance of such an establishment, and the population of the district, would warrant us to expect. It is hoped, however, that the contemplated removal and enlargement, will be productive of a very material increase, both in the number of its supporters, and the value of literary contents. The Cathedral library, being intended solely for the use of the clergy connected with that establishment, can have no claim to be included among the objects of these remarks.

There are several circulating libraries, but they contain little except novels, and works of a light description; admirably adapted to the taste of that numerous class, who form a great portion of the reading, but not of the thinking, public.

There is no philosophical society. About ten years ago, a small association was formed, having for its object the circulation of scientific works. The members were not numerous, and, after lingering a year or two, it was abandoned to its fate.

There are about half a dozen small reading societies, chiefly composed of young persons connected with the various dissenting congregations, and scarcely averaging 30 members each. The subscriptions rarely exceed six shillings per annum, and the highest, we believe, does not amount to more than one guinea. The number of books circulated must, necessarily, be very limited, and those which have been perused, are annually disposed of, at a general meeting of the members.

Early in the present year, a "Literary and Scientific Institution, for the diffusion of useful literary and scientific information among the industrious classes of the community,"—in other words, a Mechanics' Institute, was established. The number of members is about 130, of whom one-third are honorary. The library, which, with the reading-room, is opened two evenings a week, already contains upwards of 500 books and pamphlets; many of them are valuable works, presented by philanthropic individuals. A short series of lectures has been delivered; and another course is announced to commence in September, and continue, one every other week, through the winter. The eagerness with which many of the members have availed themselves of the advantages which this institution has placed within their reach; and the popularity of the lectures, even among the more intelligent classes, augur favourably for the success of the institution.

A local committee, to correspond with the "Society for the diffusion of Useful Knowledge," and promote its objects, as far as practicable, in this neighbourhood, is contemplated, and will, we believe, ere long, be in active operation.

We have thus taken a rapid view of, we believe, all, or nearly all, the "Means of Education," within the city and suburbs of

Worcester; but, in a view of the "Moral Statistics,"* we cannot, with justice, omit to notice the County Friendly Institution. It was established, about three years ago, on the plan recommended by the Rev. Mr. Becher, of Southwell, Nottinghamshire, and is gradually obtaining an increase of members; but, owing partly to the numerous pre-existent clubs, and partly to the very depressed state of the glove-trade, the members in the city district are not numerous. As the advantages which cannot fail to flow from this institution, its superior stability over the ordinary sick-clubs, and the greater accuracy of its calculations, become more extensively known, they will, doubtless, be more and more appreciatiated by that class for whose benefit such institutions are designed. A Bank for Savings was established in 1818.

There is one question in the circular before alluded to, on which we would offer one or two concluding remarks. It is this—"What kind of knowledge do you consider would be of most practical utility in your district?" The staple manufactures of the city, being porcelain and gloves, we should name chemistry as a science of considerable importance; as calculated to insure a skilful management, and probably some improvement, of the various processes connected with these employments. Chemistry, indeed, is a science so universal in its application, that there are few of the ordinary occupations, and very few situations in life, where some knowledge of its elementary principles would not prove beneficial. To many of the common handicrafts, some knowledge of mechanics is absolutely necessary; but there is not, we conceive, any science, or any branch of science, the study of which would entirely fail to produce any benefit to the individual, although it might not tend to the advantage of the community. If the sole effect of such study, be, that the mind is actively employed, and that its powers are called into exercise, no slight advantage is gained; the mind becomes conscious of that mighty truth that "Knowledge is Power;" and the consequent thirst for additional stores of information, will excite to increased exertion, and, necessarily, exercise a highly beneficial influence over the habits, the pursuits, and even the morals, of the individual. H. MARTIN.

Worcester, August, 1829.

ARTICLE III.

Some Remarks on ANGINA PECTORIS, and on Symptoms resembling it.

BY J. K. WALKER, M. D., HUDDERSFIELD.

WHOEVER has been conversant with morbid anatomy, will often have been struck with the singular appearances which have presented themselves after death, so contrary to what, from the

* Institutions whose objects are solely religious, are, of course, not within the province of this article.

preceding symptoms, it would have been natural to have looked for. It has been well observed by a French writer, "that a given symptom is no surer test of the lesion which produces it, than the view, post mortem, of a structural alteration, would indicate the symptom during life; yet what rational practitioner would reject the evidence of symptoms, or that of dissection." I have been led to these remarks by the inspectio cadaveris of a patient, who, for more than three years back, had been considered, from the symptoms he evinced, as labouring under angina pectoris, but whose appearance after death presented a mass of disease in the region of the liver, not, however, without some apparent enlargement of the heart, but with no traces of ossification either in the coronary arteries or the aorta. I am aware that the long-prevailing belief, that every case of angina pectoris originates *exclusively* in an ossified state of the coronary arteries, is now yielding to the evidence of facts. In a majority of instances, indeed, the heart does undergo, either primarily, or in the progress of the disease, some change; but it is by no means true, that ossification is the only pathological condition of the heart peculiar to this disease. On the other hand, many who never evinced the slightest symptom of angina pectoris, while living, have exhibited evidence of this sort on examination after death, where the coronary arteries were like tubes of bone.

What may originally be a neuralgic affection of the heart, without lesion of structure, may, in a series of years, terminate in structural derangement, for it is hard to conceive of any organ, that a repeated increase of action can exist for any length of time, without producing more or less of organic disease. We are but in the infancy of our knowledge of neuralgic affections, but I think it is not unreasonable to suppose, that if disease exists in that ganglion of nerves which supplies the heart, it may extend to the various filaments connected with it, and may be, and is, in the opinion of some writers, not unfrequently a cause of neuralgic affection of the heart, and of all those symptoms which have usually been ascribed to angina pectoris.

How is it, that patients have had one or two paroxysms of this disease, and afterwards lived several years, without any return of the attack, unless that the disease was, in those cases at least, for the most part sympathetic? There is reason to believe that contiguous organs, the liver, the stomach, the spleen, the lungs, have all at different times played a conspicuous part in this tragical disease. I have more than once seen attacks in the latter stages of phthisis pulmonalis, resembling, in all their characteristic features, those of angina pectoris. There was present in these instances, that acute constrictory pain at the lower part of the sternum, with palpitation of the heart and violent dyspnœa, so characteristic of this terrible malady. In two cases, at least, I have recorded accurate minutes of the progress of the disease, and in both, purulent expectoration had existed for many months, with most of the ordinary symptoms of phthisis, before the ap-

pearance of these painful paroxysms. In one of these, a violent attack at last put a sudden period to the existence of the patient. As no post mortem investigation took place in either of these cases, I am not at liberty to suppose that the heart itself was exempt from all structural disease, but we had no reason, from the state of the pulse betwixt the paroxysms, to conclude that the malady had extended its ravages beyond the lungs themselves. Sympathetic angina, too, may arise from a diseased state of most of the adjacent viscera; nay, in some instances, a mere functional derangement of the digestive organs, is said to have occasioned it, and an eminent medical reviewer,* with whose opinion on this disease I perfectly concur, has recorded a case of this kind in a gentleman, when he was fifty years old, who, during the last ten years, had entirely escaped. In another instance in the same work, a singular modification of this disease is recorded, in one patient, an old and celebrated sportsman, where extreme tenderness, of small extent, seated in *the middle of the dorsal spine*, uniformly attended every attack. There can be no doubt that the nature of this affection varies in different temperaments, according to the age, strength, temperament, and other causes, which serve to modify its violence and manner of attack.

No man can doubt that many pseudo cases of angina pectoris are foisted upon the profession, as so many instances of recovery from this formidable disease; violent pain in the epigastric region, accompanied with pain in the arm, may arise from other causes; other conditions, as well as sternalgia, are requisite to form a legitimate case of this disease; but if along with this, there is a violent dyspnœa and palpitation of the heart, a suspension of sense and voluntary motion, the disease can hardly be mistaken. The fatal case I have already alluded to, was of this nature. In the early stages of the disorder, which made its first appearance about three years ago, the patient, a gentleman, æt. 62, was seized sometimes whilst walking, or after any casual exertion, though proper care was taken to avoid every exciting cause. During the last year of his life, he was occasionally seized with a fit during the night time, continuing for an hour or two. Though various plans of treatment were resorted to, none gave him more than temporary relief; one of the most violent paroxysms he ever had, took place while the surface of the precordial region was covered with an eruption from the tartar emetic ointment. Among other anodynes, the sulphate of morphium was used, and seemed to have some influence on the return and duration of the paroxysms. His habits, during the whole of his life, were of a sober and abstemious kind, and there does not appear to have been any *considerable pain* in the right hypochondriac region, at least none that called for active treatment.†

* Vide Dr. Johnson's Medico Chirurgical Review, vol. 2, p. 404.

† I understand from the surgeon who attended him in the early part of his disease, that he had originally treated the case as one of hepatic derangement; and that he was once under the influence of the mercury.

For years he had derived great benefit from the Thorpe arch and the Harrogate waters, and had habitually taken aperient pills with ext. colocynth. comp. ipecacuan. and pil. hydrargyri, a formula which usually agreed with him. The last attack, which proved fatal, occurred in the night time in the month of April last, after a longer freedom than usual. Though, on examination, the heart appeared larger than usual, there was no *conversion of substance into osseous matter, either in the heart itself, or the coronary arteries.* The parietes of the left ventricle, and the larger vessels, were dilated. The lungs were of a natural colour, but the principal morbid appearance was found in the right hypochondriac region. The liver was much enlarged, and on its convex surface, a mixture of grey and yellow spots, and in some parts tubercles of various sizes, but no appearance of abscess. These tubercles resembled very closely the figure in the first of Dr. Farr's plates, in his morbid anatomy of the liver.

It is not easy to decide in which viscus the disease first began, or whether the angina pectoris was in the first instance only the consequence of functional, and not structural, disease of the heart. The probability is, that the enlargement of the liver, with its constant pressure against the diaphragm, as the primary cause, had produced a functional disturbance only in the heart at first, and subsequently by continued irritation, organic mischief in the substance of the heart itself.

In the Transactions of the College of Physicians,* 1813, some valuable practical observations were published, in a paper by Dr. Latham, proving that enlargement and disease of the liver occasionally give rise to symptoms that have been mistaken for those of angina pectoris, and other affections of the thoracic viscera, even by very eminent physicians. Of the two cases there recorded, the first was that of a clergyman of the University of Oxford, who had frequently laboured under angina pectoris, and had as often been relieved by a diuretic and purgative treatment, though the symptoms always returned after short intervals. Under a supposition that some hepatic derangement existed, a mercurial plan was adopted, which gave decided relief for a much longer interval than usual. The result of the case, however, was that, on preparing for his journey into the country, he suddenly fell down and expired. On examining the body, there was no disease discoverable throughout the body, except an enlargement of the liver, which was thought to be harder than usual, and which appeared to be pushing against the diaphragm, so as to form as it were, a sort of recess within it, and in such a manner as to diminish the area of the lungs, and consequently impede the thoracic circulation.

Paroxysms of hysteria are sometimes so blended with neuralgic affections, as to create considerable embarrassment to the prac-

* Vide Medical Transactions, published by the College of Physicians, in London, vol. iv. 1813.

titioner; and in more than one instance I have seen repeated paroxysms of pain in the breast, so closely resembling angina pectoris, as to excite the greatest fears for the result. We admitted into the dispensary, about a year ago, a patient of this description, æt. 26, who was unmarried, and subject to profuse menstrual discharge. The attacks were very frequent for the space of six weeks, and invariably accompanied *with intense pain in the region of the thorax, inclining to the left side, and always with more or less palpitation.* A great variety of remedies were tried without success, for a long time, and though she ultimately recovered with the aid of tonics, yet she has since had some threatenings of a return. Another patient of this description, I was desired to see more than twelve months ago. She was under the care of my friend, Mr. Hudson, surgeon of this place, and had, for some years, been subject to rheumatic affections, so as to lead us to suppose that it might be a metastasis to the heart. The attacks continued to return for some months, and so distinct were the intermissions, that it was difficult to a superficial observer to detect any deviation from perfect health. My confidence in her recovery was founded on the combination of hysteria with the other symptoms. The pain in the thorax during the paroxysm, was of the most excruciating kind, and the palpitation violent, continuing for more than an hour together. Blood-letting, leeches, blisters, antispasmodics, &c. afforded no permanent relief. She gradually recovered under the use of the metallic tonics, the oxydum zinci, and the cuprum ammoniatum.

I am, at this moment, attending a young lady, æt. 14, residing in this neighbourhood, who, for the last ten months, has had almost daily attacks of pain in the side, with syncope and sometimes palpitation. She has not yet menstruated. Her appetite and her general health in other respects are good, and there is no tenderness to be felt in any part of the spinal column. She had been the subject of a variety of treatment, by Mr. Dean, surgeon, in this neighbourhood, before I was concerned in the case. She has now for some time past, used the tinctura ferri muriatis, three or four times a day, and a pustular eruption has been brought out on the precordial region. The paroxysms have not yet entirely subsided, but their recurrence is less frequent, and their violence less. Cases of this sort, I presume, are familiar to most practitioners, but though hysteria will, at times, simulate almost every other affection, it is not so often that it puts on the form of thoracic neuralgia.

I have stated that these violent paroxysms of pain have sometimes embittered the last days of the phthisical sufferer. I had occasion to witness these cruel attacks in the case of a lady, a near relation of my own, who fell a victim to phthisis pulmonalis. It was not, however, in the early months of the disease that this symptom occurred. She had long laboured under purulent expectoration, and almost incessant cough, before these periodical attacks of pain in the left side, and palpitation, made their appear-

ance. It appeared to me to vary from the ordinary difficult respiration and pain which usually accompany this disease, inasmuch as in the intervals between the paroxysms, there was a state of quiescence and freedom from all but slight uneasiness, but for months together, day after day, did these dreadful attacks seem to threaten a total suspension of life. During the fit, the pulse sank, and became irregular, the face and extremities were pale, and bathed in a cold sweat, and for a while, she seemed as if deprived of the powers of sense and motion. No sooner had the pain gradually ceased, than her spirits returned, and bad as many of the symptoms habitually were, compared to these periodical attacks, they were a state of bliss. I need not add, that every expedient that could be devised, was adopted to mitigate the severity of the disease, without any lasting effect. She appeared to herself, and all around her, much better on the day of her death; one of these fainting fits attacked her, from which she never recovered.

One of the earliest dissections in this disease, I have seen recorded, is one related by Dr. Percival, and it is very precise in stating, that *the heart and aorta were in a sound state.* The left lobe of the liver was considerably enlarged, and full of indurated white tumours; and nearly one-half of the right lobe was beginning to be affected in a similar manner. The gall bladder was distended with bile; the stomach was hard and schirrhous, as far as it was in contact with the liver; the lungs were pale and livid; and the blood-vessels as distinct, as if they had been injected with Prussian blue. It should seem, therefore, that angina pectoris is not necessarily owing to any structural lesion of the heart, but that a morbid state of the adjacent viscera is capable of producing it in all its terrors.* In fact, a species of sternalgia is no unfrequent concomitant of diseases of other organs, as well as the heart, of which numerous instances are on record: sometimes in pulmonic affections and cases of asthma, and a case of sudden death is mentioned by Morgagni, where pain in the sternum† was felt, and where the mediastinum was

* In Hufeland's Journal, for February, 1827, there is an account of a disease, he terms pneumo-phthisis cyanotica. On dissection, he says, of subjects who die of this disease, we generally find the venous system of the brain gorged with blood, the ventricles distended with serum, and *one or both phrenic nerves swollen and indurated, or else in a state of atrophy.* In the heart, the foramen ovale is open. The blood thoughout the whole system is found quite liquid; the lungs ulcerated; the liver enlarged.

† Morgagni has given several instances of this "breast pang," in describing the morbid anatomy of the heart, but he does not attribute it, as some later physiologists have done, to an ossified portion of the coronary arteries, as if that alone were a necessary condition. In letter xxvi. is the case of the mother of a family who had been subject to a kind of paroxysm, which appeared in the following manner:—on using pretty quick exercise of body, a violent uneasiness came on, within the upper part of the thorax, on the left side, joined with a

found full of bloody serum. The same author describes another case of a man, æt. 65, who was seized with violent pain *in the sternum and in the arms*, after allowing long and obstinate ulcers in the legs, to be healed by the use of external and internal remedies. The attack, indeed, proved fatal, and the immediate cause of the death attributed to a disease of the heart, brought on by suppression of long continued discharge from the ulcers, which, indeed, was rendered probable by the post-mortem appearance. But whoever peruses with attention, the numerous cases of sudden death recorded by Morgagni, where palpitation had been a leading symptom, will be surprized to find in how many instances the heart itself was but triflingly affected in its structure, while other viscera were more deeply implicated. The affection of the heart may, it seems, be fatal, though it should only be functional. And where it is not fatal, it is apt to produce structural change which admits of no relief, and terminates frequently in sudden death. In this country, as well as on the continent, diseases of the heart, functional, as well as structural, have latterly awakened that attention their importance demands, more especially since the stethoscope has lent its aid in the discrimination of these obscure symptoms. I trust still further light will be thrown upon a class of diseases, at once so embarrassing to the practitioner, as well as painful to the sufferer. We may not, perhaps, add much to the stock of our remedies, but it is a source of deep satisfaction to the humane practitioner, to have it in his power to remove groundless alarm, to dispel despair, and carry comfort to the agonized patient. Where we are assured that there is no organic mischief, it enables us to minister that best of all cordials to a nervous patient, the hope of recovery. It is this that robs the cup of misery of half its bitterness, and introduces a ray of light, where all before was dark and desponding.

neque semper mortis imago
Tela quatit, nec terret ineluctabile fatum.

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difficulty of breathing, and *a stupor of the left arm:* all which symptoms soon remitted when these motions ceased. She expired suddenly in one of these attacks. On dissection, the heart was found rather large, very hard and very strong, and there were marks of ossification in the aorta. The stomach was in a manner double, the antrum pylori being in some measure divided from the other part, by a kind of constriction, but in other respects sound. The liver was extended very far to the left, and on the right edge of it; and on the lobe, which was continued from that edge, it was of a more saturated colour for some space, both within and without, and rather hard. The pancreas was also very hard and gorged with blood; but the spleen was lax, so that it could easily be broken down with the fingers.

ARTICLE IV.

Cases of Ovarian or Encysted Dropsy.

BY JOHN DARWALL, M. D.

Physician to the Birmingham Dispensary.

Mrs. Edwards, æt. 28. February 21, 1823. She was put to bed of a fine healthy child, about three months ago, soon after which she was attacked with violent pain in her bowels, for which leeches were applied. Her abdomen was quickly as large as just before her confinement, and it has never subsided since. Fluctuation very manifest. She has been under medical treatment at Liverpool, without any amendment. Urine plentiful; bowels open; pulse natural; milk abundant. Three gallons of viscid dark-coloured matter were drawn off by tapping, which coagulated on boiling. She expressed herself much relieved by the operation.

Feb. 23.—Going on well, but has considerable pain in the right side, in the situation of the spleen. For the first day she made much more water, but to-day it has been scanty and thick. Bowels open, from castor oil; appetite good; pulse a little sharp, 80.

April 5.—At this time perfectly well, and no symptom of fresh accumulation. There is no tumour to be felt, and the abdomen is quite flat.

June 19.—Since April the water has accumulated. She has been tapped again, but very little came away. No anasarca. Appearance good.

August 18.—She has continued very nearly in the same state, gradually, however, becoming heavier. The catamenia have appeared for the last two months, at their periods. Urine, a pint and a half in the day. Her general health not much deranged. She has been taking, for the last fortnight, liquor potassæ with tinctura scillæ, but without any increase of urine. On the 16th, she began to rub the abdomen with sweet oil, and she made a gallon of water a day for the last two days, and feels exceedingly weak. ℞ Decoct. cinchonæ ℥iss. ter die.

August 26.—Health improved since the last, but makes less water than before, and is not diminished in size. Omit the bark. Continue the friction, and increase the quantity of the tincture of squills.

August 29.—Diminished one inch in circumference since the last, and feels very much lighter and stronger. Makes two or three quarts of water in four and twenty hours. Continue the friction.

September 21.—Has considerably enlarged since the last report, and complained of great uneasiness from the weight. She was tapped this morning, when 13 quarts of a lighter coloured

fluid than the last was drawn off. During the operation, she complained of most intense pain in the left iliac region, and after the canula was withdrawn, a small hydatid appeared through the wound, evidently connected with others. It was not thought proper to pull much at it, and it was therefore cut off. She was very faint after the operation.

24.—I found her walking about and attending to her household affairs. She is still larger than she ought to be, but no fluctuation is evident. Her urine amounts to four pints a day, and her general health is good. She complains of soreness in the right hypochondrium, but no where else.

From this time till her death, June 3, 1826, her health varied considerably, but there was a gradual decrease of strength, and after every tapping, she filled more and more rapidly. The encysted nature of the dropsy also became more manifest, and the abdomen remained much distended after each operation. On one occasion there was a sudden stoppage in the passage of the fluid through the canula, and as sudden a recurrence, but the colour was completely changed from a pale whey coloured serum, to a deep bloody liquid; nevertheless there was no coagulum formed, though a small bason full was placed by itself. She suffered considerably for the last few weeks of her life, from pain in the back and bowels, and great sickness. She experienced also much dyspnœa.

She was examined twelve hours after death. The abdomen, as usual, had swelled much, but very little fluid followed the withdrawing of a trochar.

The abdomen was examined first. The peritoneum was much thickened, and almost cartilaginous; a cyst appeared in the lower part of the abdomen, occupying the pelvic and abdominal cavities, as high as the navel. The coat was very thick and contained fluid, and in the lower large hard tumours were felt. It lay perfectly loose, and was attached above the side to the umbilical ligament, which was but slightly increased beyond its usual size; and below it was connected with the appendages of the uterus. The fallopian tubes passed on each side of the cyst, and terminated in it. On opening it, a mass of hydatids and scrofulous tumours, soft, and containing much cheesy matter, was seen; and the fallopian tubes were traced on each side to separate tumours, but in neither was there any vestige of the original structure of the ovary. The uterus itself was tolerably healthy in its structure, but somewhat irregular in shape, and the tubes went off within a quarter of an inch of each other. The omentum was excessively thickened and beset with scrofulous tumours, many of them black, and containing a blackish matter. The mesentery and mesocolon were in a similar state. The small intestines had a very vivid blush upon them, but with very little coagulable lymph. The large intestines were irregularly matted with the omentum and mesocolon. There were several loose straw coloured hydatids hanging upon these mem-

branes. The whole interior surface of the peritoneum was covered with miliary, transparent cartilaginous tubercles, and similar tubercles were found on the tunic of the liver.

The liver was soft, and broke down as easily as the spleen. The spleen and pancreas were healthy. The stomach exhibited numerous small ulcerations.

The contents of the chest were healthy, with the exception of slight adhesion of the right lung.

The next case is also one of ovarian dropsy.

September 1, 1822. Mrs. Davis, æt. 53. A year ago she had a bad fever, soon after which her abdomen began to swell. Her stomach rejected food; her bowels were costive, and her urine scanty. She complained of pain in the right hypochondrium, much increased by pressure. About four months ago she was salivated with mercury, taking squill at the same time in large quantities. Under this treatment for some time she improved. Her stomach became stronger, and the swelling diminished, the quantity of urine being much increased. In a short time, however, she again became worse, and suffered from frequent and violent vomiting. The matter thrown off, was viscid and of a dark brown colour. The abdomen became immense, and she experienced great pain, which was only to be relieved by opiates. She was tapped this day, and 51 lbs. of viscid matter were drawn off, exactly resembling that rejected by vomiting. Between this period and her death, which took place on the 26th of May, 1823, she was tapped seven times, and never less than thirty pints of fluid drawn off each time. The body was examined six hours after death. Thirty pints of fluid were first drawn off by tapping. On opening the abdomen, a large mis-shapen mass was observed occupying the centre, which was at first mistaken for the bowels agglutinated together. Inferior to this, a large sac with a very polished surface was observed. Upon tracing the sac, it extended into the pelvis, where the bladder and uterus were found with their usual coverings. Passing upwards under the tumour, a separate cavity was found under the ribs, in which the stomach and bowels were all crowded together.

The right ovary was in situ and tolerably healthy; the left was wanting, and the fallopian tube, much elongated, terminated in the tumour. This was now removed, and the real cavity of the abdomen became manifest. The bowels were no where connected with the tumour, they were covered with coagulable lymph, but not firmly matted together. There were marks of recent inflammation. The liver was nearly white, and easily broken down. The kidneys small, particularly the left, which was partially converted into fat. The spleen natural. The internal coat of the stomach was healthy.

The tumour had formed connections on all sides excepting towards the pubes, and thus completely hid the abdominal viscera. Upon cutting into some of them, they were found to

consist of hydatids and scrofulous tubercles, partially broken down. In both these cases, inflammation had evidently supervened, but it is questionable whether it was not the consequence of repeated tapping, rather than an essential part of the ovarian disease. A late author, participating apparently in the Broussaian notion, that every disease is inflammatory, refers ovarian dropsy to a similar process, and nothing is certainly more easy or simple. It is, however, too simple to meet all the phenomena of these cases, which are generally unattended by pain, and frequently give no inconvenience excepting that which proceeds from their weight. In the earlier stages, also, there are none of those products which are commonly supposed to proceed from an inflammatory process; there is no turgescence of vessels, no pus, no deposition of coagulable lymph. I once saw the ovary of a girl who had poisoned herself with opium, scarcely larger than the ordinary size, a great portion of which had become changed into hydatids. Of the general health of the girl no good account could be obtained. She had, however, been a servant, and performed her work as usual, up to the time of destroying herself. It is also not unfrequent to meet with much larger ovarian tumours, consisting of cysts, containing a lymph, which has evidently been secreted by a lining membrane. But what is perhaps still more against the inflammatory origin of ovarian dropsy, is the frequency with which spontaneous cures are effected, a circumstance that has never been taken into consideration amidst the propositions that have latterly been made for extirpating the diseased ovary. Within my own experience, however, four cases of this kind have happened within the last six years, and one of the women has since borne a child. There are, it is well known, many such cases on record, and as the principal evil arises from the volume and weight of the tumour, it is surely desirable to ascertain more accurately than has yet been done, what chance may exist of a spontaneous cure taking place, before having recourse to so severe and dangerous an operation as the extirpation of an ovary. Even were the operation more easy than it is, its facility would be no reason for performing it, and notwithstanding the silly experiments that have been instituted on the abdomen of the rabbit, practical surgeons will find, that to open the human abdomen is a very different and far more dangerous matter. These remarks may seem somewhat misplaced, but a great reason for my introducing the subject of ovarian disease, is to enter my protest against what may well be called morbid activity in operating on the abdomen. It ought to be remembered that operations are the disgrace of the medical art, and then only are they justifiable when no relief can be afforded without them.

The progress of ovarian disease when interfered with, has been well exhibited in the two cases above given. The following will shew how much may be hoped for, if we will be content merely not to do any thing.

The first case occurred in a Mrs. Spalding, about thirty years of age. I saw her in January, 1825, at which time her abdomen was large, and evidently contained cysts. It was swelled much more on the left than on the right side. As her health was good, nothing but gentle aperients were given her occasionally, and she went on till the seventh of August without any particular change. On this day, while at meeting, she felt something give way in the bowels, and was immediately attacked by the common symptoms of cholera. From this she recovered, no manifest diminution having taken place in the tumour when I ceased my attendance, and I did not see her again till the following December. At this time, her abdomen had completely subsided. She stated that from the August preceding, it had gradually lessened, but without any marked increase in the urinary or alvine evacuations, or any change in the flow of the catamenia. This woman has been confined about a year ago, and is now in good health. The next case is more remarkable, and the first part is copied from my notes taken at the time.

June 13, 1824. Mrs. Huxley, æt. 44. A year and a half ago, after being long subject to attacks upon the chest, and generally ailing, became suddenly very much better, and soon after this period began to enlarge in the abdomen, and from her own account, not from below upwards, but at once across the region of the umbilicus; the catamenia continuing good and regular the whole time. Excepting the weight, she experienced no inconvenience from this, and was pronounced by the practitioner who was consulted, to be pregnant. The time of delivery however, passed, and its real nature was then discovered.

She is now much swelled, and fluctuation is very evident, but the fluid is clearly contained in different cysts. She complains of great pain at the scrobiculus cordis and right hypochondrium, much aggravated by pressure. The bowels have usually been open; the urine abundant; and the catamenia regular throughout. Last night she was suddenly seized with excessive pain in the pit of the stomach, followed by violent vomiting and purging. The dejections were almost entirely liquid, and excessively offensive. The pain is very great on pressure. Both vomiting and purging have ceased at this time, (2, p. m.) for some hours.

Some weeks ago, she was salivated, and with temporary diminution of size; but upon recovering from the mercurial influence, she became as large as ever. No swelling of the legs.

Various remedies were recurred to, but for the most part with little or no benefit. She was leeched on account of the pain; diuretics were given when there was the slightest diminution in the quantity of urine, and for some time she took iodine. Her bulk, notwithstanding, continued to increase, so that she was scarcely able to move, and her breath was very greatly impeded. Her pains also were severe, and opiates only afforded relief. In this way she continued for nearly two years, when, at length,

something appeared to give way in the abdomen, and she passed, with her urine, several gallons of a thick albuminous fluid, mixed with shreds of coagulable lymph and hydatids. This returned at different times, and occasionally takes place still. Her abdomen is nearly flat; she is enabled to walk about as formerly, and suffers scarcely any inconvenience. Her appearance is perfectly healthy.

The third case occurred in a young woman twenty-three years of age, who had been married only a few months, and of course the increase in the volume of the abdomen, was for some time attributed to pregnancy. The regular flow of the catamenia, however, led to a more accurate examination, and the abdomen was then found to be occupied by a large irregular tumour, which seemed to consist of numerous variously sized cysts. About two thirds of it were on the right side of the linea alba, and one third to the left. It was slightly tender to the touch. As in the former cases, different medicines were given, but without any success. Very many leeches were applied, but still without diminishing the tumour. At length, when the case seemed hopeless, at one of the catamenial periods, she was seized with profuse menorrhagia, followed by a decrease in the swelling; the menorrhagia recurred for several succeeding periods, and the patient is at this time perfectly well.

Another case has been reported to me in a young lady, which continued for two years, and at length disappeared. It had been pronounced ovarian dropsy by several medical men of deserved eminence.

Of these latter cases, it may certainly be questioned, whether the ovaries were implicated or not; that however the dropsy was encysted, cannot be doubted, and consequently in this respect they are of the same nature with dropsy of the ovaries; and the reasoning applied to one, may be transferred to the other. With regard to the treatment of this affection, it has, I believe, been generally admitted, that tapping is only useful when the volume of the tumour materially impedes respiration; and from the enquiries I have made, and from what I have seen, I should say that this operation should be deferred as long as possible, and that it only ought to be had recourse to in extreme cases; and that the extirpation of the ovary, however easily it may be effected, is perfectly inadmissible. The disease is neither so hopeless nor so painful as to justify a dangerous operation. Medicine certainly does not appear to have much influence on the disease; the principal indication is to attend to the state of the general health, and the accession of inflammation, taking care, by appropriate remedies, to meet the various symptoms as they occur.

ARTICLE V.

Remarks on the Observations of Dr. Hastings on the Use of the Stethoscope.

BY W. ADDISON, SURGEON, MALVERN.

The value of the numerous additions made to Medical Science by means of the various Professional Periodicals, must always, in a great measure, depend upon the degree of accuracy with which all details of opinion and results of experience, are given.

It should be a constant endeavour, when writing upon any important topic connected with the diagnosis and treatment of disease, to avoid attaching erroneous doctrines and opinions, to eminent and popular names; for this is so easy of detection, that it can hardly pass without censure. And surely but little honour can be acquired in combatting and refuting notions, the offsprings only of our own imagination. When any *observations* are about to be committed to print, it should be borne in mind that the opinions and remarks they may contain, will be promulgated not only to those who, entering upon their professional studies, expect to derive advantage from their reading, and not to imbibe erroneous notions; but also by those who, having the benefit of experience, may probably peruse with a critical eye; and this consideration would make any one doubly anxious to exclude any thing likely to mislead.

One of the most important preliminaries to the publication of opinions, upon a subject connected with practical medicine, is to consider the meaning, and extent of signification, implied by the term used to designate the particular disease under notice; this is the more especially necessary when treating upon phthisis, and essentially so, when calling in question the sentiments of others. Phthisis is a term that has been so differently applied by different authors, that it is almost impossible to avoid confusion in idea, and obscurity in expression, unless this important preliminary be attended to.

Having made these general remarks, I shall proceed to notice the *Observations* of Dr. Hastings *on the Use of the Stethoscope*, in the last number of the Midland Reporter.

The Dr. observes, at the commencement of the fourth paragraph of his communication, that "*Laennec considered he had, in pectoriloquism, discovered the true pathognomic sign of phthisis pulmonalis.*" Now this is a mistake so obvious to any one, who has even cursorily looked through the work of this celebrated pathologist, that I am surprised at such an assertion. And I need only refer to the following passage, among many others, to shew this. "*Pectoriloquism.*—This phenomenon may be produced UNDER VERY DIFFERENT CIRCUMSTANCES. 1. By the softening of tubercles, (by far the most common cause.) 2. By the decomposition of a gangrenous eschar. 3.

By an abscess, the consequence of peripneumony. 4. By the evacuation of a cyst into the bronchia; and probably also by a fistulous communication between the bronchia and an abscess of the mediastinum."* Now Laennec confines the term phthisis pulmonalis to denote the presence of tubercles in the lungs, the changes they undergo, and the disorder which these produce in the system. It is therefore extremely erroneous to suppose that he considered pectoriloquism as the "*true pathognomic*," or peculiar distinguishing sign of phthisis; on the contrary, as I have just shewn, he states that it is observed in other affections of the lungs, as in dilatation of the bronchia, abscess and gangrene.

It is difficult to discover what Dr. Hastings understands by the term phthisis, for he puts the following questions. "*Does the existence of a tubercular excavation necessarily imply the co-existence of phthisis?*" To this I answer that a *tubercular excavation* is one of those important morbid conditions of the lungs *constituting* phthisis, and therefore that the question becomes whether a disease can co-exist with itself, which is evidently ridiculous. Again, "*Are there not individuals in whom the existence of such a cavity is consistent with tolerable health?*" Certainly there are, or may be, and such persons occasionally "*regain their flesh and health*;" nevertheless they are, or have been, as much affected with phthisis pulmonalis, (considering this term applicable to the conditions stated by Laennec,) as those who emaciate and die. I see no reason or necessity for concluding with Dr. H. "*that such cannot be said to be affected with this disease.*" Phthisis is dependent upon a certain morbid condition of the lungs, that is, upon the existence of tubercles, while its symptoms and stages are determined by the changes these bodies undergo, and the effects thus produced. Phthisis, therefore, may be detected where there is no very marked derangement in the state of the general health; while, on the other hand, its existence is not to be positively inferred from symptoms so dubious in their indications, as debility, emaciation, and cough. I do not pretend to assert that thus restricting the meaning of the term phthisis is advantageous in practice, though there can be no doubt that we ought to be as precise as possible in the import of our language. I only wish to shew the manner in which not only Laennec, but other French pathologists and surgeons consider this subject. In the Lancette Française, M. Recamier has communicated his ideas upon this matter.—"Il a vu des phthisiques d'une constitution en apparence athlétique; il en a vu qui, parvenus á la derniere période, présentaient néanmoins tous les signes de la plus brillante santé."—Tome 2, No. 13, p. 49.

Those who have studied Laennec's work, do not require the force of any argument to admit, "*that the existence of pectoriloquism does not necessarily imply that the subject is affected with phthisis;*" nor do they need the observations of Dr. Hastings to convince them "*that tubercular phthisis may be present*

* Vide Laennec by Forbes, Ed. 2nd, p. 37.

and pass on to a fatal issue, without ever being productive of tuberculous excavations in the lungs;" though they could inform him that this occurrence is very rare.

At the commencement of these *Observations*, Laennec is accused of relying too much upon the information he derived from the stethoscope, to the exclusion of the important aid to be procured from a diligent study of the symptoms. But who is competent, without experience at least, equal to Laennec's, to assert that this pathologist relied too much upon the indications afforded by his own instrument.

It would have been more modest at least, to have remained content with cautioning those *not having sufficient experience*, from paying too great a regard to the indications of the instrument, to the neglect of other diagnostic signs. I have little doubt that the stethoscope, in the hands of an experienced practitioner, (aided by a strict observance of the ordinary symptoms,) will in all cases be sufficient to detect the existence of phthisis, perhaps even previous to the occurrence of any marked and prominent symptom; shewing by the absence of the respiratory murmur, the existence of tubercles, and by pectoriloquism, the seat of any cavity resulting from their changes. But even were it to fail in any case, this may be as likely to occur from inexperience in the use of the cylinder, as from incapacity in the instrument to detect the morbid conditions.

At page 327,* we find the following; "*I am certainly, from some experience, decidedly of opinion, that if our treatment of tuberculous consumption were more early and assiduously applied, we should not so often have to deplore the inefficiency of our art in this dreadful malady. I am aware that this statement is at variance with the conclusions formed by the enlightened discoverer of the stethoscope, but nevertheless, the observations I have made, do not permit me to fall in with the opinion stated by him.*"

Now it tends to mislead, when writing on medical subjects, so to construct our sentences, as *to convey* to the reader *an idea* that our own experience leads to conclusions different from those of others; and still more so *to affirm* that they are at variance with those of another, when there is sufficient to prove the contrary.

To say that the cure of phthisis is contrary to the conclusions of the enlightened discoverer of the stethoscope, is certainly erroneous. Laennec, indeed, admits that phthisis in its early stage is incurable. But he evidently means by this, only that the first period of a certain natural process connected with tubercles, cannot be restrained by art, and not *that the patient must die.* Now that this is Laennec's meaning, must be obvious, from the following passages in his work. "But while I admit

* By an accidental transposition of the figures, the seven pages from 322 to 328, are erroneously numbered 232 to 238.—(Ed.)

the incurability of consumption in the early stages, I am convinced from a great nnmber of facts, that in some cases the disease is curable in the latter stages; that is, after the softening of the tubercles and the formation of an ulcerous excavation." "When we consider that the formation of tubercles in the lungs seems usually to be the consequence of a general diathesis; that these are frequently found contemporaneously in the intestines, where they ultimately occasion ulceration and colliquative diarrhœa; and that in some cases also, that they exist in the lymphatic glands, the prostate, the testicles, the muscles, bones, &c. We must be led to believe the most perfect cures that can take place in consumption, as merely temporary, (which after all are but rare when compared with the vast number of consumptions,) we are still entitled to hope for the cure of many cases of phthisis, or at least for such a suspension of their symptoms, as may be deemed almost equal to a cure, since the individuals may enjoy such a state of health as may enable them to fulfil all the duties of civil life for several years." "I think that tubercles in the lungs are not in every case a necessary and inevitable cause of death; and that a cure may take place in two different ways *after* the formation of an ulcerous excavation; *first*, by the cavity becoming invested by a new membrane analogous to some of the textures of the healthy body; and *secondly*, by the obliteration of the excavation, by means of a cicatrix, more or less complete."

"We may even be justified in believing that a case wherein all the ordinary symptoms of consumption exist *together* with *pectoriloquism*, is more favourable than one in which they exist without this peculiar phenomenon."* Now this last sentence not only evinces Laennec's ideas regarding the cure of consumption, but also *proves* that he did not consider pectoriloquism as a *sine qua non* or *pathognomic sign* of this disease.†

A Note by Dr. Hastings.

An attack of a man's opinions, even when made rather uncourteously, is scarcely ever to be regretted. I am on the present occasion, very much obliged to Mr. Addison, for giving me an opportunity, as I have been assailed in other quarters, of putting in a short, but I hope, satisfactory plea of justification.

The first ground on which Mr. A. is so kind as to reprove me, is for having stated that Laennec considered pectoriloquism a pathognomic sign of phthisis. If Mr. A. will so far trouble himself, as to read the third article of the second chapter of Laennec's celebrated work, he will find this opinion stated in the plainest possible words. At page 57 for instance, "De tout

* Laennec, by Forbes, 2nd edit. pp. 299, 301, 316, 319, &c. &c.

† Vide p. 394, case 19. "Pectoriloquism, not discoverable," "*diagnosis*," "phthisis."

ce qui précède, on doit conclure que la pectoriloquie est un *véritable signe pathognomique* de la phthisie pulmonaire."—— "Je dois ajouter qu'il est le seul que l'on puisse regarder comme *certain*."

Now since all agree that pectoriloquism is not a pathognomic sign, not one that we can regard as certain, who can deny that Laennec, in this instance at least, attached more importance than he should have done, to the information to be derived from the use of the stethoscope, and as a consequence was *inclined*, for this is the word used by me on the occasion, to rest his dependence on the results to be derived from auscultation and percussion, to the exclusion of the important aid to be procured from a diligent study of the symptoms.

Again, Mr. A. is angry with me for dissenting from Laennec's opinion, that phthisis in its early stage is incurable. The words used on this subject by this great pathologist, are "Les observations continues dans l'ouvrage de M. Bayle prouvent suffisament que l'idée de la possibilité de guérir la phthisie au premier degré est un illusion. Les tubercules crus tendent essentiellement à grossir et à se remollir." From this statement I so far dissent, as to believe that, though the progress which Laennec describes is the most common one for tubercles to pass through, yet they occasionally take a different course. I have seen strong instances to convince me that consumption in its early stages, that is, when the tubercles are small, is curable, without these foreign bodies passing through the tedious process of softening and subsequent ulceration. In this opinion I am much confirmed by Dr. Baron's interesting experiments on the rabbit, which prove undeniably that tubercles, in that animal, form and disappear, without passing through the process of softening and ulceration.

Let me not be misunderstood in these observations; they are not made with any view of detracting from the merits of the illustrious discoverer of the stethoscope, who has no rival, perhaps, in pathology, in the present day; but we are not to be so dazzled by the brilliancy of his reputation, as not to see that his opinions were sometimes erroneous. This, indeed, would but ill agree with the rules of philosophical induction, which he so happily followed in his investigations. The searcher after truth should call no man master. For Bacon has well observed, "although the position be good, *Oportet discentem credere;* yet it must be coupled with this, *Oportet edoctum judicare:* for disciples do owe unto masters, only a temporary belief, and a suspension of their own judgment, till they be fully instructed, and not an absolute resignation and perpetual captivity; and therefore so let great authors have their due, as time, which is the author of authors, be not deprived of *his* due, which is further and further to discover truth."

We may admire, then, Laennec as a distinguished pathologist, but it must be admitted that he formed an erroneous estimate of the value of pectoriloquism as a sign of phthisis pulmonalis, when

he said it was pathognomic; and therefore, humble individual as I am, I will conclude with the philosopher of old, by saying, amicus Plato sed magis amica veritas. C. H.

ARTICLE VI.

MEDICAL JURISPRUDENCE.

Case—Diseased Brain, affecting the Speech, Hearing, and Eyesight; as also the voluntary Muscles generally. The intellectual faculties remaining good. Legal Question—The validity of the will made by the patient.

On the 6th of June, 1826, I was requested to visit Mr. Beddard, of the Hill Top, in the county of Hereford, who had been for some time ill, under the care of my friend, Mr. Watson, of Stourport; I found him in a very lethargic state, and his general appearance was dull and stupid. On more close inquiry, I found that his speech was much impaired. He talked slowly and sometimes hesitated, and was not always able to articulate so as to express the idea he had in his mind. He complained of noises in his ears, particularly singing in them. The eyesight was imperfect. He did not direct his eyes steadily to any one object, but could, nevertheless, distinguish the hands of my watch when I placed it before him. His gait was very unsteady. He tripped a good deal in walking, and there was a constant trembling of the hands. My attention was particularly called to the intellectual functions. He answered all my questions with propriety, and did not exhibit any imbecility of mind. He was enabled to do for me rather a difficult sum in addition, with accuracy. He told me the collect for the day, and, at my request, it being Sunday, read it to me, and part of the Psalms. Many questions with respect to the locality of his dwelling, he answered with accuracy, and particularly he wrote down in words the distance of it from the adjoining town.

I made inquiries of the above exact nature, as I had been asked whether he was in such a state as to be able to dispose of his property; to which my reply was in the affirmative, adding, that although his mental faculties were hitherto sufficiently acute, it was evident that the disease of the brain would increase, and ultimately render him incapable of transacting any affairs.

The history I heard of the case was very short. It appeared that though in early life he had been sober and steady, for some years past he had been a notorious drunkard. His constitution had gradually given way from this cause, and within the last twelve months more especially, congestion of the vessels of the head, so as to threaten apoplexy, had been occasionally observed. During that time also, small quantities of spirituous and vinous liquors had been sufficient to produce intoxication, in which state he was guilty of great incongruity of conduct.

Attempts were made, but in vain, by different remedies, to check the progress of the disease in the brain. He sunk into a state of mental imbecility, and died of apoplexy, in January, 1827. After my first visit, I never saw the patient again until the day before his death, when I found him in a profound coma, and his breathing stertorous.

By his will, he devised his property absolutely to his widow, who married a second husband. The nephew of Mr. Beddard claimed the estate as heir at law, and brought an action of ejectment at the Hereford Assizes, in August, 1829, against the husband of his late uncle's widow, to ascertain the validity of the will of his uncle. The affirmative rested with the defendant, whose counsel opened the case. From his statement, supported by the evidence, it appeared that the lessor of the plaintiff is the heir and nephew of the late Joseph Beddard, from whom the defendant claimed as devisee. Mr. Beddard, on the 26th of April, 1826, made his will, by which he devised the whole of his property, with the exception of a few legacies, to his wife Charlotte, and she had, fourteen months after his death, married the defendant. The only question was, whether the will was a valid will, and the testator of a sound and disposing mind at the time he made it. The father of the testator died in 1812, leaving to the mother of the lessor of the plaintiff, his freehold estates and other property, to the value of £17,000, and to the testator his copyhold and other estates of the value of £18,000. At that time the testator was residing at Chapel Ash Farm, near Wolverhampton, and although it appeared that in his youth he had been of very temperate habits, during his residence at Wolverhampton he had given himself up to hard drinking to such an extent that his health was naturally affected. On the 25th of March, 1825, after a long courtship of nine years, he married Miss Charlotte Miller, the daughter of a respectable farmer, in the neighbourhood of Chapel Ash, and removed to his father's former residence at Hill Top, in the county of Hereford. Soon after the marriage of the testator, symptoms of paralysis manifested themselves, and a medical gentleman, Mr. Watson, of Stourport, being called in, by the application of a seaton in the neck of the testator, by copious bleedings, and a regulation of his diet, he recovered considerably. On the 24th of April, 1826, the same symptoms having again appeared, Mr. Watson was sent for, who finding that he was not able to answer for the safety of his patient, recommended him to settle his affairs, which the testator consented to do, and appointed Mr. Watson to attend on the 26th, to witness the execution of his will. After the departure of Mr. Watson, the testator sent for his farm bailiff, and desired him to write down the instructions for his will, devising the whole of his real and personal estate to his wife absolutely, with the exception of two legacies of £200 each to his two nephews, and some other trifling bequests to friends and old servants. The testator then sent for his solicitor, Mr. Robinson,

of Tenbury, and desired him to make his will according to those instructions, and to have it ready for execution on the 26th. Mr. Robinson immediately wrote the will and left it with the testator to read over, in order that he might ascertain whether it coincided with his intentions, at the same time explaining the effect of it to him. On the 26th, Mr. Robinson again attended, according to appointment, as did also Mr. Watson. Mr. Robinson read the will over to the testator, and questioned him as to his reasons for leaving the whole of his property to his wife, from his own family, suggesting that he had nephews, and that it would be sufficient if Mrs. Beddard had the enjoyment of the estate for life, as she might marry again. The testator replied that his nephews were well provided for, and that his wife's family wanted it more than his family, and that he did not think she would marry again, and at all events he could alter his will, or tie her up at another time. Mr. Watson made similar inquiries and remarks to the testator, and received similar answers. The will was then executed in the presence of Mr. Watson, Mr. Robinson, and Cale, the bailiff, and attested by them. On signing his name, the testator left out the letter *s* in "*Joseph;*" it was noticed and corrected by him, by adding the letter at top in the usual way. The testator's health becoming still worse, on the 4th of June, Dr. Hastings, a physician, from Worcester, was called in. On the 7th of June, the testator executed the conveyance of some property that he had sold, but he was so weak as to be unable to write his name, he therefore only made his mark. On the 9th of October he executed another conveyance, but was so far recovered as to be able to write his name, but on the 5th of January, 1827, he died of apoplexy. It was stated by Mr. Watson, that when he saw the testator on the 24th of April, he had had an attack of partial palsy, but his apprehension was perfectly clear, his answers relevant, and his facts and reasonings perfectly correct; and an extract which was read from the diary of Dr. Hastings, stated the testator to "be 42 years of age, of full habit, latterly his limbs weak; that he could not write distinctly, yet could see the hands of a watch, but his intellectual functions seemed good." The counsel, on the part of the lessor of the plaintiff, addressed the jury, and in a most powerful speech reviewing the whole of the evidence, contended that the testator was not, at the time of making his will, of sound and disposing mind. A great number of witnesses were then examined at considerable length, to show that the testator had become quite childish, and that his mind had been destroyed by inebriation. They detailed some of his ridiculous conversations, stating that he would have the church drawn from the bottom to the pitch of the hill, as it had been long enough down below, and described him as amusing himself by playing with little stones, placing them in circles and angles, and that he went out coursing at all seasons of the year, and was watched about his grounds like a child, in order to prevent him hurting himself. It was also stated,

that he said the lawyers and the doctors would be too much for him, but he would have some grey peas boiled ready for them by the next time they came. Mr. Baron Vaughan summed up, and put it to the jury to say whether upon the whole of the evidence, they believed that the testator was, at the time of making his will, what the law termed "of sound and disposing mind," if they did, they would do right to find a verdict for the defendant; but if they thought that the evidence in support of his sanity was not to be believed, they would find a verdict for the plaintiff.—The jury found a verdict for the defendant, thereby establishing the validity of the will.

Observations.—There are, occasionally, circumstances in which it becomes necessary for a medical man to give an opinion, as to the capability of an individual devising his property; and sometimes the situation in which he is thus placed, is one of peculiar delicacy, and calls for the exercise of the utmost caution and circumspection in delivering his judgment, as by an error on his part, great inconvenience may arise, and perhaps ultimately much expensive litigation to the parties interested in the decision.

Ordinary observers are so disposed to magnify any trivial aberrations and eccentricities of character, into matters of great moment, that occasionally but for the intervention of those more skilled in investigating the powers of the mind, an individual may be deprived of one of the most important rights of a citizen—that of making a disposition of his property.

In the case above detailed, repeated inebriation had, by producing disease of the brain, greatly altered the appearance of the man. The functions, too, of the body, more immediately dependent on a healthy state of the brain, were very much impaired; as for instance, the speech, eye-sight, hearing, and also the voluntary muscles.

The diseased state of these faculties, necessarily gave an appearance of imbecility to the patient; yet a closer investigation proved him to possess perception, judgment, memory, and the power of comparing and combining his ideas correctly.

It was evident that he was subject to fits of delirium; he often indulged in the most ludicrous kind of conversation, and was guilty of such strange conduct, that many witnesses came forward to testify that many things he had done were akin to insanity. But the real truth is, that often from indulging his thirst for strong drink, the man was affected with delirium tremens, which on some occasions continued for a length of time. Such cases are not uncommon. I have latterly witnessed one which strikes me as deserving particular notice. It occurred in a remote part of Herefordshire, where the light of civilization glimmers but faintly, and where, amongst other blessed effects of blissful ignorance, (so lauded by some,) it is no uncommon thing to find even respectable persons believers in witchcraft.

My patient was a respectable landholder, who had, for a long time, indulged in free potations. After some time, his constitu-

tion began to suffer, and when I was called to him, he had, for some time, exhibited symptoms of delirium tremens; and as the violence of this state subsided, he had become paralytic on one side. His delusion, however, after the attack of paralysis, still continued, and it more especially had respect to witchcraft, to which superstition he in health leaned. He believed that one of his servants was a wizard, and that he had overlooked him. When I first saw my patient, he accosted me by saying, "I am very glad to see you, Sir, for *he has done for my knee.*" He then shewed me the knee of the paralytic side, which was very curiously folded in flannels, and told me that in spite of all his care, the wizard had *done* for him as he crossed the yard. He then gave me a long and curious history of these machinations, and hoped I might be able to poison the wretch, as if he discharged him from his service, it would be vain to look again for peace or safety in his possessions. This delusion lasted many weeks, but by blistering his head, by calomel and opium, and entire abstinence from wine and spirits, he recovered. He still, however, by taking too much fermented liquor, relapses into delirium.

It is, indeed, a subject worthy of much consideration, to what an extent the brain may be diseased, and the functions of the organs of sense impaired, whilst the intellectual functions are but little or not at all injured.

A few years ago, I attended a gentleman between 60 and 70, who had, some years before, experienced an attack of apoplexy, which left him with his speech imperfect, eyesight very defective, and hearing dull. His memory was not at all affected, and although his appearance, from the eyes being very much protruded ever since the apoplectic seizure, was very unfavourable, yet his judgment with respect to his affairs, was good, and in that state he made an equitable arrangement of his property. He was sensible to the last moment of his life, and exhibited much affection for his family.

On inspection after death, the skull-cap was found very closely adherent to the dura mater. There was considerable effusion between the membranes, and the arachnoid was much thickened. The whole of the middle lobe of the right hemisphere of the cerebrum, was broken down into a pulp, and the side of the lateral ventricle was entirely destroyed. Yet with all this mischief in the brain, he had been able to transact business, and with the exception of paralysis, was in tolerable health.

I knew a lady who suddenly lost all power of speech, and became paralytic on one side, who, in a great degree, recovered the faculty of speech, but was obliged again to learn her letters, and to read as a child, but ever afterwards was subject to fits resembling epilepsy, although the intellect was not injured; she made her will after the paralytic attack. In one of the fits she fell into the fire and was burnt to death, her intellectual functions having been correct up to the time of her falling into the fire. On examination after death, I found the arach-

noid membrane thickened, and a large portion of the middle lobe of the right hemisphere of the brain softened and broken down into a pulp.

In neither of the above instances was the will of the individuals called in question, although made after the disease took place in the brain; for notwithstanding the impaired condition of the external senses, and the disobedience of the muscles to the will, there was evidence of the faculties of the mind being vigorous.

Within a very short period I have witnessed a singular instance of the activity of the mental powers, after great apparent stupor had come on, which, as it is in itself very interesting, and also connected with our subject, may be related. I was called to see a gentleman between 50 and 60 years of age, who had been very well till within a few days of my visit. Suddenly he had been seized with shivering, and a pain in the thigh. Erysipelas made its appearance in the thigh, and on the second day, being of a full habit, he fell into a stupor. When I saw him he seemed asleep, and breathed stertorously. I endeavoured to rouse him, but could scarcely obtain a monosyllable in reply. Entertaining the worst possible opinion of him, I expressed it to his brother, who regretted that he had not settled his affairs. I told his brother that it was now out of the question to suppose he could do so, as we could not awake him sufficiently for the purpose. Some time after this, without further notice being taken, he called to his brother, and told him to attend, as he would dictate his will. To the great astonishment of all present, he, in the clearest manner, dictated a very just will, leaving his property in trust, for his children. He directly afterwards, without mentioning any other affairs, again relapsed into coma, from which, before his death, he again aroused, and then gave some directions with respect to an annuity to a clerk, who had been a faithful servant to him.

Whether this fact may, as here related, strike the reader to be one of peculiar interest, as connected with the validity of wills, I know not; but for myself, I shall never forget the surprise with which I heard this man, whom I had considered perfectly stupid, dictate one of the most just and perspicuous testaments that was ever executed. Such facts as the above should teach us to exercise extreme caution in declaring a person to be incompetent to the important duty in question; as the powers of the mind, though dormant, may sometimes be called into action, when to ordinary observers all hope of such an event is vain.

I will conclude these remarks in the words of a celebrated writer on Medical Jurisprudence. "It is impossible," he says, "to extend this investigation into the numerous cases which may present doubts as to the strength of mind of individuals. Every instance must be judged on its own merits; and while weakness of understanding deserves protection, it should be remembered that too nice an investigation of eccentricities and imperfections may lead to oppression and injustice."* C. HASTINGS.

* Dr. Beck's Medical Jurisprudence, p. 254.

ARTICLE VII.

Address to the Gloucester Society *for the Cultivation of* Natural History.

BY JOHN BARON, M. D., F. R. S.

We consider the cultivation of natural history of so much importance, especially as regards the interest and advancement of medical science, that we hail with joy every circumstance that leads us to suppose it is gaining ground in the estimation of the public. When we speak of natural history in these high terms of commendation, we do not mean to be understood as wishing to patronize that system, by which too often, under the name of natural history, vulgar and trivial, curious and fruitless observations and experiments have been magnified, so as to appear fit materials for building the temple of science; but we would wish to see the workmen and labourers in this department of learning, so to dig their clay and burn their brick, that they may be "fundamental to the erecting and building of a true philosophy, for the illumination of the understanding, the extracting of axioms, and the producing of many noble works and effects." Impressed with these considerations, we are happy in being enabled to state that a society has been formed in Gloucester, which, if the expectations held out by its founders be realized, will assist in making more complete our collection of the works of nature. We think such an institution has strong claims to support, and we are glad to find that its members have taken the earliest opportunity of shewing that they wish the society to be supported by those who zealously cultivate human learning. They have chosen Dr. Baron president of the society; and the inaugural address delivered by the learned gentleman on the opening of the institution, as printed in the Gloucester Journal, has come into our possession. It strikes us as being so apposite to its purpose, that we cannot forbear extracting some portions of the interesting composition for the edification of our readers.

Having given a rapid, yet luminous, glimpse of the great field of human knowledge, as including all the phenomena of the material world, and having stated the modern division of that field into two grand departments, namely,—of *general* physics, to which *certain general principles* are applicable, and of *particular* physics, or natural history, Dr. Baron proceeded to the consideration of the latter as a science of *specific* or *particular* observation. It derives no help, except in an indirect manner, from pure calculation or precise experiment. Its object, therefore, is to examine all the *inanimate* bodies that our earth affords. It deals likewise with every kind of *living* thing, whether animal or vegetable. In this wide domain the naturalist has ample range for all his faculties; and, though his mind may not be exercised with the sublime and abstruse inquiries of some

of the purer sciences, it will nevertheless be found that his researches border on them all; and have paved the way to many of the most valuable discoveries of the Natural Philosopher, the Chymist, and the Physiologist.

With increased animation of manner and of voice, the President then proceeded nearly in the following words:—I rejoice that something is, at length, to be attempted in behalf of useful knowledge in this ancient city. Distanced as we have hitherto been in the race of improvement, it is to be hoped that the day is now come which shall remove this stigma; that we are about to do homage to intellectual pursuits, and to participate in their benefits; and, that though the means of cultivating many branches of science still be denied us, we at least by diligence and perseverance may obtain an accurate history of the natural productions of our own district, if not of our own island.

Let no one imagine that the labours of the Naturalist are directed to points of small moment, or calculated to gratify a restless curiosity; that he is occupied in counting *anthers*, or in describing *insects*; and that the height of his ambition is to swell his catalogue of rare productions, or to people his museum with every varied species, more with a desire of evincing his capacity for arrangement, than for more useful or dignified purposes. That there may be minds so dead to the real objects of our pursuit, there is too much reason to believe, but we can tell them that *we* have higher and better aims—*we* go forth into the external world to find in the wonders it reveals to us the footsteps of the power, the wisdom, the perfection, of the eternal, omniscient, and omnipotent Creator!

In the course of his address, the president took a rapid glance of what may be called the *history* of the science, and of the writers who have enriched its pages. Aristotle, Pliny, Ælian, on Zoology: Theophrastus, Dioscorides, and Pliny, on Botany, among the ancients, are the only naturalists whose works have come down to our day—though Pliny, the latest of them, himself informs us that he compiled his Natural History from the writings of 2500 preceding authors. From the time of Pliny, through a long night of intellectual darkness, the knowledge of nature, like all other sciences, slept in oblivion 'till the human mind was aroused from its lethargy at the period of the reformation.

It were unjust to the memory of one of the most distinguished of mankind, even in an imperfect enumeration of the writers on natural history, to omit the name of the immortal Bacon. In his publication on this subject, (being the third and last part of his *Organon*, for the instauration or renewal of the sciences,) he was conscious that his reputation might suffer; yet he was resolved to make a beginning. He modestly called it "a thing exceeding little in quantity like a grain of mustard seed; but yet a pledge of those things which, God willing, may ensue."

About the same time, two most laborious writers on Zoology appeared, Aldrovandus and Gesner. Both adopted Aristotle's

method. Then followed our countrymen Willoughby and Ray; both Fellows of the Royal Society of London—a Society which might be said to have revived the cultivation of natural history, in England. Proceeding in the order of time, we arrive at that period which introduces us to a list of authors who have cultivated the science with the most distinguished success. In the most conspicuous place stands the imperishable name of Linnæus. He aequired, when very young, a remarkable taste for plants. His father, who was pastor of the village of Rashult, in Sweden, cultivated an extensive garden with considerable skill; and the son Charles, who was enamoured of the pursuit, had a piece of ground allotted to him for his own use. He rambled in the neighbouring fields and woods, and soon filled his garden-plat with all the wild flowers he could collect. He was destined for the church; but his love of natural history so absorbed his mind, that the studies preparatory to his theological pursuits were neglected. His father was disappointed and mortified; and actually formed the resolution of binding Charles to the trade of a shoemaker! This destiny was averted by the penetration and liberality of John Rothman, a professor of medicine, who took him into his own family, where he remained three years, cultivating his favourite studies with astonishing success. In Rothman's house he became acquainted with Tournefort's "Institutions," which first suggested to his mind his systematic arrangement of plants. The embarrassments of Linnæus, arising from the smallness of his means, and the consequent difficulties he encountered in pursuing his studies at Lund, and at Upsal; his early and perilous journey on foot though the whole of Lapland, as far as the Frozen Ocean; and the unconquerable spirit with which he overcame all obstacles, have imparted a degree of interest to his personal history, which certainly had not been equalled by that of any naturalist before his time. The study of his life, therefore, recommends itself to our notice, not merely by the substantial information it every where affords, but likewise by the animating encouragement that it holds out to every lover of truth to go on fearlessly in his course, under the full assurance that his labours will not be in vain.

Before Linnæus was twenty-three years old, he wrote a Treatise on the Sexual System of Plants. In the following year he set out, under the auspices of the Academy of Sciences at Upsal, to explore the dreary region of Lapland. The *sum* voted by the learned body for the expenses of this toilsome journey, amounted only to about 7*l.* 10*s.* For this distinguished honour, he was indebted to the "Sketch" of his Sexual System. A few years afterwards, the publication of an outline of his Systema Naturæ, procured for him another gratification that he coveted—Boërhave, the most renowned physician of his age, was then living at Leyden, old and infirm, and difficult of access. Linnæus had attempted, in vain, to be admitted to his presence. By the advice of Gronovius, he published an outline of his "Systema," and

sent it to Boërhaave, who was so much delighted with the genius and knowledge displayed in the work, that he sought the author, invited him to his country house, and loaded him with distinction.

The system of Linnæus was, in one sense, confessedly artificial. He divided vegetables or plants in 24 classes, according to the number, the insertion, the length, the union, or separation of the stamina. This arrangement brought together many discordant species; it has, nevertheless, been found to be admirably adapted to facilitate the knowledge of plants.

Since the time of Linnæus, attempts have been made, especially in France, to unite the *artificial* arrangements with the *natural* method. This has been termed the *analytic;* and has been exemplified in the "Flora" of France, published by Lamarck and Decandolle some years back. Long previous to this period, Bernard Jussieu had arranged the plants of the botanic garden at Trianon: but the principles that guided him were unknown till his nephew published the basis of his system, under the title of "Genera Plantarum," in 1789.

Having thus taken a rapid glance of *one* great division of Natural History, including *organic* bodies, we come to the *second*, namely, of the *inorganic*. The objects included under this head are of vast importance to our existence, and to our comfort. The ancient distribution of inanimate bodies, under the term of Air, Water, and Earth, accords very nearly with that adopted by modern naturalists. The natural history of the Atmosphere, the natural history of the Waters, and the natural history of the Earth, are the *three* heads under which this branch of the subject may be viewed. The first two have been usually studied in connexion with the truths of Chymistry and Natural Philosophy; and they now form distinct branches of science, under the names of Meteorology and Hydrostatics. Both of them bear closely upon our inquiries; but as they have been, in some degree, transferred to other stations in the map of science, I shall proceed at once to deliver a few remarks on the natural history of the Earth.

The first object of this division, is to determine the *characters* of the different substances which compose the crust of the earth, with a view of giving them appropriate names and an accurate classification. It includes two great branches, Mineralogy strictly so called, and Geology. Both are almost entirely the result of modern investigation, the arrangements of the ancients being founded on very imperfect and ill-understood principles. Linnæus here, as in other departments of the science, showed the wonderful powers of his genius. He divided the subject into *three* classes—rocks, minerals, and fossils. He took the *characters* not merely from the external appearance, but likewise from the chemical properties of the bodies: and he was the first to pay particular attention to the form of the crystals.

Mineralogists are not yet agreed on the principles of their arrangement. Berzelius contends that the species should be disposed

according to their chemical composition. Werner and others adopt a mixed method, derived both from external and chemical characters; whilst Professor Jameson and his followers arrange minerals by their external character alone.

The next division of our subject, namely, geology, has of late assumed a character of so much importance, that it will justify me in occupying your attention somewhat more at length. This department of our pursuits in natural history, treats of the structure of our Globe as far as lies open to our observation. The fundamental point on which it rests, is to ascertain the order in which the materials that constitute our planet are disposed. A superficial observer might imagine that these materials are scattered irregularly over its surface, or confusedly thrown together. So far from this being the case, it is incontestibly proved that the mineral masses are, for the most part, disposed in stratified beds more or less inclined to the plane of the horizon. This *outcropping* of the strata as it is called, is productive of the greatest benefit to man. Had they remained nearly in a horizontal position, *one* stratum might have covered the whole globe. There would have been neither mountains nor valleys; and man could have known nothing of the inferior strata, except by artificial excavations. But the great convulsions which opened the fountains of the deep, and burst asunder the crust of the earth, though attended with the greatest devastation, have left the surface of our planet more suited to the actual condition of man; and have brought to light the most valuable of its mineral products, without which many of the arts, and I may add of the sciences too, must have been unknown. The beds which at one point lie at an impenetrable depth, are, at another point, elevated to the surface, and their contents rendered accessible to man.

The examination of the earth's strata, undertaken at first to ascertain the characters of the rocks themselves, has brought to light a far more extensive and interesting field of inquiry, which has united the labours of the geologist to those of the botanist and zoologist; and given a great degree of accuracy to the researches concerning the changes on the surface of the globe.

In many of the beds or strata, are discovered the remains of vegetables and animals. The marine zoophytes and shells, in particular, are in some instances so abundant, as to constitute almost the entire mass. The distribution of these remains, when pursued in detail, affords results still more remarkable. It will be found that a great part of the genera, and a vast majority of the species, are altogether different from the plants and animals with which we are *at present* acquainted, as covering the earth or inhabiting its waters. It will, moreover, be found that there are some rocks or strata which are *entirely destitute* of these remains. These rocks are the lowest in the series, and are called *primitive*. The series next in order to the primitive contain these remains *sparingly*, while they *abound* in the three succeeding series. The rocks containing these remains are called

secondary. It is, however, at the same time to be remarked, that they are not irregularly distributed throughout the whole series of the secondary rocks. On the contrary, these remains are arranged, as it were, in families: each *formation* containing species peculiar to itself, and accompanying it throughout its whole course. Thus, for example, the *fossils* found in the *chalk* formation of Flamborough-head, of Paris, and of Poland, correspond with each other. If fossils from the carboniferous limestone of the same localities be examined, they will, in like manner, be found to correspond. But if the fossils from the chalk-formation and the limestone be compared, *not one* instance of specific agreement will be discovered.

Few occurrences in modern science have been more remarkable than the phenomena which have been made manifest by naturalists in this branch of study. It has brought an irresistible weight of physical arguments in support of the most valuable historical truths. So striking, indeed, are these arguments, that, had we never heard of an universal deluge, geology itself must have called in the aid of some such catastrophe to explain the phenomena of *diluvian* action which are every where presented to us, and which are unintelligible, without having recourse to a deluge exerting its ravages at a period not more remote than that announced in the book of Genesis. Such are the sentiments of the illustrious Cuvier, than whom no man living is better fitted to deliver an opinion on this momentous subject.

It seems the more necessary to refer to this testimony of so distinguished a writer, because other passages in his works have been supposed to wear an unfriendly aspect to the account given of the creation of the world, by the sacred historian. I am inclined to hope that this has arisen from a misapprehension of Cuvier's meaning: for all the inquiries concerning either the fabulous or the authentic histories of different nations, when compared with the phenomena presented by the earth's surface, and the facts recorded in Mosaic history, *all* have led him to the full conviction that the extraordinary antiquity ascribed to the earth, by the eastern nations, is entirely destitute of foundation; and that the natural history of our globe, so far as it has been ascertained, fully coincides with the Mosaic account.

This, unquestionably, is the general scope of his reasoning; though certainly there are detached passages which, taken by themselves, might lead to a different conclusion. Thus, for example, he observes, "every thing leads us to believe that the human species did not exist in the countries where fossil bones have been discovered, at the period of that revolution which overwhelmed these bones." This sentence, taken by itself, has led some to imagine that Cuvier meant to infer that the creation of the inferior animals took place *long* anterior to that of man: and some of his own reasonings certainly countenance that notion: but another passage, which follows almost immediately, ought to have prevented such interpretation. "I do not mean (he says,)

to conclude that *man* did not exist at the period I allude to: he might have inhabited some countries of small extent, from whence he re-peopled the earth after these terrible events."

Throughout the whole of this part of Cuvier's reasoning, there is some ambiguity; but I have said enough, I trust, to acquit him of any direct intention of casting a doubt upon the *sole* authentic record of the creation. He seems to have been biassed by the really important information which he had acquired, and which led him to a fallacy that it may be worth while to point out.

The non-existence of fossil human bones among the remains of those land animals that have been found in Europe, Asia, and America, is to Cuvier a conclusive proof that the human race did not exist in these countries at the time the revolutions took place which overwhelmed these remains. Now this argument proves a great deal too much. We have unquestionable evidence that man has existed on this earth for more than 5000 years; and, though we are now in its old age, *no fossil remains of man* have yet been discovered. If, therefore, the proof of the existence, or non-existence, of our race depended on a fact of this kind, it is quite plain that such proof could not be afforded. Would it, then, be wise, in the absence of an arbitrary condition imposed by fallible and short-sighted man, to reject all historical testimony because it did not accord with some of our *speculative* anticipations?

Let us view this question in another light. It is admitted by all writers, whose authority is of any value, that the universality of the tradition, as well as the amount of the physical evidence in proof of the Noachian deluge, render that marvellous event one of the best attested in the history of our globe. No one has more effectually demonstrated this position than *Cuvier himself*. He has likewise clearly proved that the existence and appearance of an immense number of fossil remains which we witness are to be ascribed to that event. Now, it is *as certain* that man existed at the time of the Deluge *as* that the earth at this moment bears testimony to its ravages. But, while the strata that announce this event are *filled* with the *remains* of the *inferior animals, no remains of man have been* discovered. Are we thence entitled to infer that man did not exist at this epoch: that he whose wickedness covered the earth, and brought this catastrophe upon it did not then occupy its surface; or that he *was not* in the scene of this awful visitation? It is clear that *this* must be the conclusion, if the proofs of the antiquity of our race had no other foundation than that which rests on the existence or non-existence of its fossil remains. The arguments, which have thus been slightly hinted at, are sufficient to prove the unsoundness of any hypothesis that touches on such remote events, when opposed by the plainest and most direct historical truth. The whole matter, in fact, is placed much beyond the reach of our conjectures. Every attempt to account for the phenomena presented by our globe, which has not had reference

to the great source of truth, has been marked as much by its inconsistency as by its extravagance and folly: whereas, on the contrary, every accession of real knowledge has compelled men, even against their inclination, to approximate the Scripture history. They have found proofs and illustrations, even when they expected to find arguments of a very different description. Who then can doubt that every fact added to the list of human acquirements; that every truth rescued from the dominion of ignorance and error; that every addition made to sound knowledge, will more and more evince the wisdom of the Great Creator: and prove that the works which declare his glory, and shew his handy-work, speak the same language with those which announce his *providence* and his *will* to man?

ARTICLE VIII.

Medical Jubilee at Birmingham, in honour of Dr. Edward Johnstone.

BIOGRAPHICAL SKETCH OF DR. JOHNSTONE.

No one will be disposed to deny, that it is of infinite importance at the present time, that the leading characters in our profession should be distinguished for integrity and talent. Looking only to the diffusion of knowledge throughout all classes of the community, it must be evident that the public is becoming every day more equal to judge of the competence of medical men, and as a consequence, more likely to detect ignorance and knavery. Again, as respects the interest of our profession in another point of view, it is also of unspeakable moment; for we are now endeavouring to obtain from the legislature, a legal sanction to study that indispensable branch of a medical education—anatomy; and there are no means so likely to lessen the difficulties that oppose the attainment of this object, as maintaining a dignified attitude before the world. If, finally, we turn our attention to the members of the medical profession themselves, and observe the spirit of misrule and confusion with which some of them are actuated, and the attempts that have been made in the metropolis to bring about feelings of hostility between the cultivators of the several branches of medicine, we cannot but feel that this is the time in which the friends of peace and harmony should declare themselves, and we are therefore anxious that no opportunity should escape us of exalting, as far as we have the power, those favoured sons of science who have, by their life and conversation, shed a lustre around them, and whose example, reputation, and acquirements, are calculated not only to stimulate their brethren to exertion, but also to raise admiration of our art in the public mind.

Happily, as provincial journalists, we have not to deplore those enormities which have disgraced a part of the profession in the

metropolis. We do not hear of slanderous attacks upon professional characters, nor base and malevolent traducing of the charitable institutions, which, to the honour of the provinces, flourish so vigorously in almost every direction. But we are far from believing that as a body, provincial practitioners hold the rank in the community to which they may attain, and to which we shall strenuously endeavour on all occasions to stimulate them to aspire.

We cannot conceive any more potent stimulus to ardent and generous minds, than the example of worth and genius meeting with a just reward. Such an example has lately occurred on the occasion of Dr. Edward Johnstone, of Birmingham, completing the fiftieth year of his practice in that town; and as the circumstances in detail connected with this display of public respect, are calculated to produce the most lively emotions of pleasure in every feeling breast, we cannot forbear requesting the attention of our readers to them.

We may premise that Dr. Edward Johnstone is of medical descent. His father was a distinguished physician at Worcester, and as it is interesting to trace all the bearings of this unprecedented case of esteem, manifested by those with whom the enlightened physician above-mentioned has, through a long life, acted, and as it also falls in with our wish of giving a short biographical sketch of any medical men who have flourished in our district, we will, before describing the jubilee, give a slight memoir of the family.

Dr. James Johnstone, primus, was physician to the Worcester Infirmary. He practised medicine for more than half a century. He was born at Anandale, in Scotland, April 14, 1730, where he continued till he had attained his fifteenth year, when he was removed to Edinburgh, and after the usual course of study, spent under the auspices of Monro primus, Rutherford, and Plummer, the degree of doctor of medicine was conferred upon him. The subject of his thesis on that occasion, was "De aeris factitii imperio in primis corporis humani viis." In 1751, Dr. Johnstone settled at Kidderminster, where he early acquired a considerable emolument from the exercise of his profession, and zealously engaged in its arduous and important duties. The first fruits of his observation and research, as given to the public, are met with in the philosophical transactions, under the title of "two extraordinary cases of gall stones:" but this paper forms but a small portion of his contributions to the stream of science. It is not necessary here to detail all his communications to the republic of letters. We shall fix upon the most important of his investigations, which related to the nature of the ganglions of the nerves, and the employment of mineral acid fumes to counteract and destroy the infection of fever.

In the 54th, 57th, and 60th volumes of the philosophical transactions, will be found an account of his experiments and opinions respecting the use of the ganglions, which were considered of so

much importance by the illustrious Haller, that it procured for the author his friendship; and a correspondence, chiefly on the ganglions, was kept up between these distinguished men for a period of fourteen years. The view taken by Dr. Johnstone was the same as that afterwards adopted by the celebrated Bichat, who had not, unfortunately for his posthumous fame, sufficient candour to acknowledge that he had been preceded by an Englishman in this important investigation.

But doubtless the most useful of Dr. Johnstone's labours were those which led to the application of the fumes of mineral acids to the prevention of infectious fevers. This, indeed, may be considered as one of the most valuable discoveries of modern times, and that it belongs entirely to Dr. Johnstone, we think is undeniable. It is true that Dr. Carmichael Smyth set up a claim to the discovery, and obtained from parliament a reward of £5000. But Dr. Johnstone had, nearly forty years prior to the publication of Dr. C. Smyth's work, in which he laid claim to the merit of the discovery, sent forth to the world "An Historical Dissertation concerning the Malignant Fever of 1756," in which he related that he had ascertained this very important fact; and Mr. Crane, surgeon, of Kidderminster, who attended the dinner given to Dr. Edward Johnstone, stated publicly that the employment of the mineral acid was so common in Kidderminster sixty years ago, that the poor fumigated their own houses under the direction of Dr. Johnstone. We believe that now indeed the merit of this discovery is pretty generally given rightly. The learned president of the college of physicians, in a letter to Dr. John Johnstone, says, "I have an *hereditary* regard for all your family, and never forget that it was to your father, the world really owes the discovery of the powers of muriatic acid gas, to prevent the spread of contagion. It is true that though *ego feci, tulit alter honores*, yet I have never failed to consider this as just cause of reproach to the House of Commons, who voted the reward to Dr. Carmichael Smyth. I should have taken great pleasure in making this statement with all sincerity and force to the assembled medical gentlemen of our second metropolis." And Dr. De Lys, at the Birmingham dinner, in proposing as a toast the memory of Dr. Johnstone, very forcibly remarked on this subject, "our excellent president, Dr. John Johnstone, with an ability and filial piety worthy of himself, undertook to vindicate his father's claims, and in a letter which he addressed to the Members of the House of Commons, fully established his father's right to be considered as the original author of this important discovery."

Dr. Johnstone's medical career was unusually long. He died on the 28th of April, 1802, in the 73rd year of his age, and 52nd of his practice. The latter part of his life was spent in Worcester, to which place he removed on the death of his eldest son, Dr. James Johnstone, who, on account of the distinguished eminence that he attained at an early age in his profession, and the public service to which his life fell a sacrifice, is entitled to peculiar notice in this place.

Dr. Johnstone, secundus, graduated at Edinburgh, in Sept. 1773. His Thesis on the Angina Maligna, was considered as a master-piece, and recommended to the attention of physicians, by Dr. Cullen. In the summer of 1774, Dr. Johnstone was unanimously elected a physician to the Worcester Infirmary. His success and diligence in his profession, gave him a large share of medical practice in the city and county of Worcester, at a time of life when it is not very usual for physicians to be much employed. When called by the magistrates of the county of Worcester to visit the prisons where many laboured under the gaol fever, nobly attentive to his duty, he went into the cells full of pestilential contagion, and restored health to the miserable sufferers, but his own life fell a sacrifice to the exertion. He was seized with the fever, and after a short illness, died on the 16th of August, 1783, in the 30th year of his age. His death is thus recorded by the immortal Howard. "Dr. Johnstone, jun. of Worcester, has lately fallen a much lamented martyr to a noble discharge of duty, in attending the prisoners ill of a fever in Worcester gaol, in 1783. He attained, at an early period, to great and deserved eminence in his profession, and will be ever regretted as a physician of great ability and genius, and one of the most pleasing men, prematurely snatched from his friends and country."

Having now shortly detailed the *hereditary* claim which Dr. Edward Johnstone has to our regard, we must, before proceeding to describe the jubilee, just indulge ourselves with a few observations respecting his education, and the circumstances that appear to us to have called forth this enthusiastic expression of esteem.

Edward, the third son of Dr. James Johnstone, primus, after graduating at Edinburgh, commenced his unusually long and bright career of medical renown, at Birmingham, at the age of 23, where, as he himself relates, he was taken by the hand by Dr. Ash. His fame soon spread abroad, and in comparatively few years, his medical reputation was completely established. But it was soon discovered that his talents, great as they were, formed but a small portion of his claim to public admiration. The purity of his life and conversation, and the real kindness of his heart, secured to him, in an unusual degree, the affection of those with whom he became connected. This we consider the bright feature in the character of this celebrated man, and no doubt it was, in a great measure, from this cause that his fellow citizens, now that he has arrived at the mellow maturity of age and experience, determined to place an unfading chaplet on his brow. With this view they instituted a festive day—a jubilee—not a day of vulgar mirth—but sacred to the purest sympathies of our common nature. They wisely resolved, ere he was removed from their sight, to set their seal to an imperishable record of the virtues and talents of this guileless man.

At the dinner to Dr. Edward Johnstone, upwards of one hun-

dred gentlemen, nearly all of whom were of the medical profession, of Birmingham and its vicinity, met at the Royal Hotel, to celebrate the fiftieth anniversary of his practice in Birmingham, as a physician. Dr. John Johnstone presided on the occasion. Mr. Wood officiated as his vice-president. At the head of the second table was Dr. Booth, with Mr. Blount as his vice-president. On the removal of the cloth, the chairman gave the following toasts:—"The King"—"The Duke of Clarence and the Royal Family"—"The Duke of Wellington."—These having been drank, the chairman rose and addressed the assembly in the following words:—

"I rise with more than common satisfaction to propose to you the health of a gentleman and a physician, whose professional services, lengthened to the period of half a century, we are assembled this day to celebrate and commemmorate.

"On an event so unusual, and the celebration of the like so entirely without a parallel, I trust you will forgive me if I trespass longer on your time than I am in the habit of doing. I cannot resist, in the first place, offering my tribute of gratitude to those gentlemen in whom this measure originated, and whose zeal and activity have carried it into effect. They have done an act of justice to society; they have set a pattern of generosity, and a love for science and their profession, which will not be lost: depend upon it such a day and such an occasion as this belongs to the future. It is an example to the young,—an encouragement to the active,—and a consolation to the aged; and it teaches us all, that our honourable labours will be sure to meet an ample reward; and I will not hesitate to add that this learned and respectable assembly, by celebrating this jubilee, stamps itself with a character which is indelible. *(Applause.)* Permit me to read to you the public annunciation of this meeting. [The Chairman here read the advertisement announcing the meeting.]

"So nearly allied in blood to that individual, so affianced, and so knit to him by all the ties which can bind men together, it is far more difficult to compress than to dilate on the subject matter on which it is my duty to address you; for, were I to enlarge on all the excellent qualities of his head and heart, which have now endured the ordeal of more than three score years and ten, the day would fail me; yet there can be no indelicacy in my declaring that which, perhaps, I know better than any other man; nor shall I shrink from executing the full task which you have imposed upon me. *(Applause.)* Gentlemen, I need not tell you that my brother, and your brother, *(great applause)* has lived to the boundary of his 73d year; on the 26th of this month he touches that period. On the 14th of June, 1779, he was honoured by the University of Edinburgh, with the title of M. D. and published his Treatise "*De febre puerperali*," a work mentioned with distinction by the celebrated French surgeon, M. De Pouteau. I mention this fact to prove that the student had practical experience, and that he began

practice not a novice. He came to Birmingham in the autumn of the same year, having been chosen Physician to the General Hospital at its first opening, this day fifty years ago, with Dr. Ash, Dr. Withering, and Dr. Smith—an ample acknowledgement of his early merits, if an historical testimony were needed. From that period, to the present hour at which he stands before you, with the crown of "*viridis senecta*," and unsullied honour seated on his brow, he has never departed from his post,—he has lived with you and among you, and you may easily judge of the fatigues and anxieties he has sustained, by a comparison with your own; for I call you, gentlemen, and heaven, to witness that the practice of our profession is no sinecure. *(Applause.)* Our dealings with men are not in times of health, ease, or festivity; but in times of sickness, affliction, and death; and, therefore, to be relievers of human woe, and administerers of comfort, and healers of diseases, we must necessarily be wholesale dealers in misery, and companions in sorrow; and to fill a post in society of such a character requires no common talent—no common exertion. Gentlemen, such was and is my brother; and, so well has he done his duty, that I am sure he may triumphantly exclaim in sight of the goal of life, "*neque me vixisse pœnitet quoniam ita vixi ut non frustrà me natum existimem.*" Gentlemen, I shall not follow him step by step through his long course of usefulness, nor notice those numerous instances of ardour in the cause of his profession,—his generous conduct towards his brethren—his consistency—liberality, and independence as a *public*, and his amiable demeanour as a *private* man. It would require a history rather than a page to do all this. You, who have lived long enough to know him from the commencement of his career, are in possession of it all; and those who have not, will remember sufficient from the histories of their fathers, to tell the whole story of his life in better and more appropriate language than I am master of; and your meeting this day will record and set an everlasting seal of approbation on his character and conduct. *(Applause.)* I will not, therefore, detain this assembly any longer than by finishing the duty they have imposed upon me, by offering to you, Sir, (turning to Dr. Johnstone) their congratulations on your attaining the fiftieth year of your practice, and their ardent wishes that your very honourable and useful life may be extended to the longest possible period of enjoyment to yourself, and usefulness to others." *(Great applause.)*

The Chairman then gave the health of Dr. Edward Johnstone, with three times three, and begged that, as a mark of distinction, it might be the only toast drank in that manner during the evening.

After the cheering which accompanied the drinking of the toast had subsided, Dr. Johnstone rose to reply.

"Gentlemen,—I thank you, most cordially, most sincerely do I thank you. Could I, indeed, be insensible to the kindness which suggested this public expression of your attachment and esteem;

could I be unaffected by your applause, the applause not of an indiscriminate multitude, the effect of momentary impulse, but the result of long and intimate connexion with yourselves, your fathers, and even in some cases, your grandfathers, in a profession calculated above all others, to call forth the finest sympathies of our nature, and to cement an union and affection only less than that of nature and consanguinity? If, I say, I could remain unmoved, I should little deserve the distinguished honour which you now confer. Not the least mark of your kindness, is the appointment of your president, for whose, perhaps, too partial representation, I now feel indebted; a brother, a friend, and counsellor, from whom I have derived the greatest assistance and consolation during those sufferings and trials which are incident to human nature, and of which I have had my share. The remembrance of all my obligations so irresistibly forces itself on my mind, so strong and various are the associations which arise, that I cannot but distrust my power, adequately to express what I now feel. I console myself, however, with the reflection, that the same partial judgment which encouraged my youth, has followed my riper years, and now irradiates my declining age—that sympathy which I have ever experienced in the many interesting situations in which we have been placed, will excite similar feeling in your breasts, and lead you amply to supply my defects. But, gentlemen, I feel that cordial comfort which can only arise from approbation of the wise and good. This is, indeed, a jubilee, a day to be held in perpetual remembrance by those in whom I hope to survive. Well may I exclaim, "*O diem lætum notandumque mihi candidissimo calculo! Quid enim aut lætius aut mihi optatius quam me ad recta tendentibus quasi exemplar esse propositum? Quod gaudium ut perpetuò capiam, Deos oro: ab iisdem peto, ut omnes qui me imitari tanti putabunt, meliores esse quam me velint.*" Gentlemen, again I thank you; to all, to each of you, I offer my most grateful acknowledgements, and my fervent wishes that you may all live to experience the same gratification you now bestow."

Such an instance as the foregoing, of unfeigned homage paid to the character of a member of the medical profession, is exceedingly rare. The like may not recur in the present generation. We treasure it up as an event worthy of frequent meditation. It is a bright beam of sunshine in the atmosphere of life, well calculuted to shed a genial influence around those who, in the morning of their professional career, may have to encounter its storms and tempests; for if they shape their course to the model which we have now laid before them, they may hope, like him, to enjoy an evening of calmness, brightness, and serenity.

"*Serus in cœlum redeat!*"

ARTICLE IX.

On Delirium Tremens.

BY JOHN BURNE, M. D.

Licentiate of the Royal College of Physicians, of London; Honorary Secretary for Foreign Correspondence, of the Medical Society, of London; and formerly President of the Royal Medical Society, of Edinburgh.

But a few years have passed by since the disease now known by the term "Delirium Tremens," was considered a phrenitis, or inflammation of the brain, and treated by active depletory measures; and notwithstanding the generally fatal consequences, the same erroneous views continued to be entertained, and the same injurious measures to be persevered in, till the empirical exhibition of opium called upon physicians to pause, and invited them to embrace a remedy as generally successful, as blood-letting has been destructive.

Dr. Sutton* informs us that this disease was very prevalent on the east coast of Kent, where he resided, and that it was treated in two ways by different practitioners: one party, amongst whom was himself, viewed it as inflammation of the brain, and employed antiphlogistic measures; the other party, without pretending to any exact notions of the pathological condition of the brain, used opium in large and repeated doses. The Doctor soon perceived that the latter was the successful practice, and although by enquiry he could not learn how opium first came to be employed, but was informed it did good by procuring sleep, he, with much candour and judgment, and in opposition to his own views, adopted the successful remedy. So discouraging was the effect of antiphlogistic measures, that Mr. Boys, a surgeon-apothecary, who treated the complaint for many years as phrenitis, lost his patients so uniformly, that he began to attend such cases with reluctance; but after he adopted the use of opium, he had much satisfaction from the success of his practice. The further experience of Dr. Sutton, led him to the conclusion that opium was the effectual remedy, but the success of opium (he says,) is not complete unless it goes to the extent of inducing rest or tranquillity ending in sleep.

This opinion is confirmed in a very decided manner, by Dr. Coates, of Philadelphia, in a memoir published in the North American Medical and Surgical Journal. He goes so far as to say, that "the patient must sleep or die," and that to procure sleep, opium must be administered without limit, till the effect is produced. The object of Dr. Coates, then, is to procure sleep, and such also is the object of Dr. Sutton, and both agree that this is to be done by opium. Dr. Coates gives five or six grains

* Tract on Delirium Tremens; Underwood, London, 1813. This tract is full of practical information, and contains a faithful account of the disease, and of the remedial effects of opium, as employed extensively by the author.

of opium in powder every hour, and the successful amount with him has generally been from twelve to twenty-eight or thirty grains. Dr. Sutton's ordinary dose is two or three grains every two hours, and sleep has usually followed after the third or fourth administration. The treatment by opium is further supported by Rayer, both by his own experience and by that of M. M Dumeril and Guersent.

The opinion of the profession generally, abroad as well as at home, is very unsettled. Some physicians have recourse to blood-letting, some to opium, others prefer the stimulus, whether spirits or malt liquor, to which the patient has been accustomed, and others a mixed treatment of blood-letting and opium combined. The greatest amount of experience is unquestionably in favour of opium; but although Dr. Sutton says he has "found opium so capable as to want no aid," and Dr. Coates affirms that "the disease is entirely and absolutely under the control of opium, and that he has never seen, read of, or heard of, an instance in which it was productive of any harm;" yet I am compelled to call in question these conclusions, and for the best of reasons, that the same infallibility of opium has not attended the use of it in my hands.

Nor can I agree with these physicians in their remarks on blood-letting, which go to say that "the disease is not sufficiently under the control of the general circulation, to be cured by venesection," and that "blood-letting is not absolutely necessary in any case."

In thus calling in question the conclusions of Dr. Sutton and Dr. Coates, I do not mean to deny or undervalue the powers of opium in the delirium tremens, or to extol the efficacy of blood-letting, much less to recommend it as a substitute. With them I agree so far that opium may be esteemed the sovereign remedy, but with them I do not admit that it is the universal one. I have seen opium do much harm, and blood-letting much good. My own experience has taught me, that in some cases blood-letting alone is the best means of cure; in some, blood-letting conjoined with opium, and in others, opium alone; and it is my present purpose to endeavour to point out the various conditions which indicate this various treatment, and to consider the principle upon which such treatment is formed.

Like too many others, I was, in the early part of my practice, led away by the bold and confident assertions of enthusiasm, and by the biassed views of prejudice, and disposed to construe every tumult of the sensorial functions into inflammation of the brain; a fatal error, as I soon learnt from experience. Under this impression, I employed blood-letting in the delirium tremens, and with consequences as unfavourable as those which Mr. Boys first encountered. Laying aside this plan, I adopted the use of opium, on the more substantial authority of the facts recorded by the physicians above quoted; but even here the success did not bear out my expectation, for, notwithstanding the efficient remedial

power of opium in many instances, it was by no means so uniform as represented, and on some occasions, as I have already said, injurious.

Case I.—The first case which I shall adduce, was that of a man between forty and fifty years of age, of dissolute and intemperate habits. He was seized rather suddenly with delirium, tremors, great agitation and restlessness, attended by a febrile movement of the adynamic character, and corresponding depression of strength, and inability to sleep, while the pulse was large and frequent, and the action of the heart somewhat tumultuous.

I directed blood to be abstracted, which was done to the extent of from sixteen to twenty ounces, the stream being full and free, but not at all times steady. The effect of the loss of blood was soon apparent; it diminished the violence of the symptoms only in proportion as it reduced the powers of life, their character remaining unaltered. The patient sunk rapidly and died within eight and forty hours.

Case II.—Mr. ———, aged 38, a tall well-made strong man, house-steward to a nobleman. He was brought to town from the country, under the supposition that he was insane, and it was said "he had drunk himself mad." This person was of exemplary habits till within the last two years; since which he has been much harrassed by his own private affairs, and having a talent for writing, his mind has been actively engaged in controversy, which induced him to sit up at night. About four months prior to his arrival in town, he had given way to a greater indulgence in ale, spirits and wine, and soon began to grow irritable, impatient and restless, and although he was always busy about something, he could not fix his attention on any one object. He was now watchful the first part of the night, and unable to obtain sleep till towards the morning, which made him prefer sitting up in a chair to going to bed; and in this way he passed his nights. For the last ten days previous to his coming to town, his mind had been flighty and incoherent; and for some weeks he had been affected with tremors and agitation.

When I first saw him, he was just returned from being shaved, and was urgent to go out again, without any rational object; he was constantly on the move, as if busily occupied, but shewed no artifice to make his escape, and was controlled without much difficulty. He was labouring under great agitation and violent tremors, and much engrossed by a delusion that his mouth was full of maggots, desiring me to look at the quantity he spit out; his face was sweaty and suffused, as also were his eyes; his tongue was tolerably clean; his pulse fullish, though soft, and his body perspiring; the bowels were not open. He had slept for a short time late in the morning, but the rest of the night he was noisy and unruly.

I ordered some jalap and calomel to be given immediately, and wished him to be cupped, but he objected to lose "the least drop

of blood," on the ground that it always lowered him so much. He consented, however, at length, but only two ounces were abstracted. Opium was next prescribed, and he was directed to take half a drachm of the liq. opii sedat. (Battley,) every three hours till sleep ensued. By six o'clock, he had taken two doses, without the desired effect; on the contrary, he became very boisterous, and more agitated and restless, and was getting into a profuse perspiration; his tongue, also, was becoming dry and brownish, and his pulse rapid. As no dejections had taken place, senna and salts were administered, and he was now cupped to eight ounces, after which he was somewhat composed. The use of the opium was resumed in the dose of half a drachm of the tincture, to be repeated every hour till sleep supervened. Two doses only were given by the attendant, and the night was passed in a most turbulent state, although he dozed at intervals, and towards morning had some disturbed sleep.

On the second day, the symptoms were unabated, and he was incoherent. In the course of the forenoon, the opening medicines, (which had been repeated several times,) operated copiously, and gave him much relief; he became more composed, and had some quiet sleep. Determined to persist in the use of opium, in the hope that it would be more effectual now that the bowels were evacuated, I prescribed fifty drops of the tincture to be given every half hour; he was to take also one grain of calomel every four hours. Three doses only of the laudanum were given; the first was quickly followed by an exacerbation of all the symptoms, and after the third, he grew violently agitated and highly delirious, crying out murder, calling for pistols, &c. and continued in this state the whole night.

Next morning (the third,) I found him sitting up on the sofa, quite incoherent, rendering it necessary to keep him under the restraint of a waistcoat, which had been the case the two preceding nights.

After this trial of opium, I did not feel justified to return to the use of it in this case, and as he was not deficient in strength, I advised more blood to be abstracted. Six ounces were drawn by cupping, which was followed in the course of the day by a decided mitigation of all the symptoms. In the afternoon, he felt himself fatigued, wished to lie down, and shewed signs of rest which did not disappoint us, for soon after he had gone to bed he fell into a sound sleep, and awoke in the morning free from incoherence, and with a great abatement of all the other symptoms, as the agitation and tremors. From this period he recovered rapidly, with no other treatment than aperients and salines, and a continuation of the calomel less frequently. In the space of ten days he was quite well.

Case III—Was a patient of the public dispensary. He had the usual symptoms of incoherence, restlessness, agitation, and tremors, in a moderate degree, with a slight febrile movement and sleepless nights. The pulse was rather frequent and of fair

strength, and his muscular powers enabled him to walk to the institution, under the charge of an attendant, as an out-patient. He had been long addicted to drink, and had latterly lost flesh.

I directed him to lose twelve ounces of blood, and to take the tincture of opium in the dose of thirty-five drops in the evening, and to repeat it every two hours till sleep ensued. After the middle of the night he obtained sleep, which was followed by a manifest amendment on the next day. The laudanum was again resorted to on the succeeding night with a more decided effect; he slept much and tranquilly, and awoke with a further abatement of the symptoms. It was necessary to continue the opium in this case for some nights longer, the disease subsiding gradually, so that it was a fortnight before he regained his usual state of health.

In two months afterwards, his health again began to fail, and he was threatened with a return of the complaint, which was dissipated by resorting to opium; and opium has been since required at intervals to ward off the attacks with which he is not unfrequently menaced.

Case iv—Was a patient in Guy's Hospital, a man of very intemperate habits, and past the middle age of life. He was exceedingly agitated and delirious, had tremors and was restless, with a considerable diminution of muscular power. Blood was directed to be abstracted by cupping to ten ounces, after which he was to take a grain of calomel, with eight of the extract of hyosciamus. Within an hour after the blood was drawn and the hyosciamus was exhibited, he fell into a profound sleep, which lasted many hours, and he awoke as from a dream, almost free from delirium, agitation and tremors. His perfect recovery was rapid.

It is an opinion which may be considered established, that the delirium tremens is produced by habitual indulgence in the use of fermented liquors, spirituous more particularly, as is generally believed. Now the influence of such habits shews itself sooner or later, according to the nature of the constitution on which it operates, one constitution resisting it in a remarkable degree, while another is speedily shattered. It is an interesting inquiry of science to trace the chain of effects of fermented liquors, from the first harmless excitement of temperance, to the premature decay of the habitual drunkard; which indeed has been done by Cramer, in a work on the "Passion pour les brissons enivrantes," published at Berlin, which passion or propensity is appropriately designated "Dipsomania," by Hufeland; but such an inquiry is not altogether called for in this place, the purpose of this paper being to discuss the merits of opium and blood-letting in the cure of the disease.

The period of the occurrence of the delirium tremens is determined by many circumstances, as by a greater or less susceptibility to the influence of fermented liquors, and to the operation of an exciting cause, generally to be referred to the passions of the mind. Now as the exciting cause is purely accidental, and as

the susceptibility differs in individuals, as also does the period of the formation of the predisposition to delirium tremens, it follows that there are no fixed states of system in which this disease always appears; that is, it may appear before the constitution is impaired, when it is impaired only to a certain degree, or when it is altogether broken up, or at any intermediate period. The condition of the patient varies of necessity with these circumstances, and so must vary the remedial measures. That a disturbance in the functions of the nervous system is the prominent feature in the delirium tremens, no one can doubt, nor can any reasonable person doubt that it is modified by the state of the sanguiferous, or that the sanguiferous is influenced by the use of fermented liquors; but as the use of fermented liquors is continued, their ulterior effect is more decidedly on the nervous system, and hence our treatment must be directed more immediately to this system.

It is for this reason that in the case first related, in which the constitution was so much shattered, the depletory measures had recourse to were so injurious, while had the excitement of the nervous system been allayed by opium, the patient might possibly have recovered.

In the second case, where the constitution was not as yet impaired, the opium produced, on two successive trials, an immediate and alarming exacerbation of the nervous excitement, while the moderate abstraction of blood, and the withdrawal of his accustomed stimulus, fermented liquors, were followed by sleep and a subsidence of the agitation, tremors, and incoherence.

In the fourth case, although in it a considerable inroad had been made on the powers of the constitution, yet sleep and convalescence were the almost immediate effect of moderate depletion, seconded by an ordinary dose of hyosciamus. So also in the third case, blood-letting was beneficial, and rendered more efficacious the treatment by opium.

Inferences supporting these facts may be drawn from the numerous cases reported by Drs. Sutton and Coates, notwithstanding the decided opinion of these gentlemen that opium is the sole and sufficient remedy. There is one very striking contrast in the experience of these two physicians, which is that Dr. Sutton's cases were cured by half the quantity or less of opium, which was required in the cases treated by Dr. Coates; Dr. Coates prescribing five or six grains at a dose, and repeating it as many times as the less dose prescribed by Dr. Sutton, which was only two or three grains. Now the greater part of the patients treated by Dr. Sutton had been bled, some of them copiously, before he was called in, while blood-letting has not been employed by Dr. Coates. The plain inference is therefore that the abstraction of blood had rendered the after exhibition of opium successful in a dose not exceeding half the quantity used by Dr. Coates.

The circumstances under which I would advise the use of blood-letting and opium, are the following.

Where the powers of the constitution are not broken, and where the patient evinces good bodily strength, blood in a moderate quantity may be drawn once or twice with safety and advantage, either from a vein or by cupping, and this treatment will of itself abate the nervous excitement, and bring about sleep, the great object to be held in view.

Where the powers of the constitution are impaired to a certain degree, with failure of the patient's strength, and the attendant febrile movement has a slight adynamic character, blood may be drawn, but with circumspection and by cupping, to the extent, on an average, of eight or ten ounces, which should be followed by the exhibition of opium, in the dose of two grains as used by Dr. Sutton, to be repeated at an interval of two hours till sleep is induced.

Where the powers of the constitution are shattered, and the disease attended by prostration of strength, and by a fever of a decidedly adynamic character, the abstraction of blood would be hazardous if not fatal, and it is in this case that opium is so signally efficacious, and must be given in large and quickly repeated doses till sleep is procured, as two or three grains every hour.

The principle on which this treatment is founded, is the relative condition of the nervous and sanguiferous systems. The excitement of the nervous system is the principal feature of the disease, and to allay this excitement is the main object, the end in view being to procure sleep, which is essential to recovery. Now the nervous excitement is sometimes kept up by the excitement of the sanguiferous system, as in case 2, and the excitement of the sanguiferous system being moderated by the abstraction of blood, the nervous excitement subsides, and sleep and recovery follow. Sometimes the sanguiferous system is concerned only in a less degree, as in case 4, and here the abstraction of blood, which should be limited, requires to be followed by the exhibition of opium. And lastly, the disease, as case 1, may be so purely a nervous excitement, as to need only remedies directed immediately to that system, and here opium is the sole and successful remedy.

ARTICLE X.

Cases of Ossification of the Coronary Arteries.

BY MR. OSWALD BEALE COOPER.

To the Editor of the Midland Medical and Surgical Reporter.

Sir,—The following case appears to me, but a young practitioner, to possess considerable interest, and should you honour it with a place in your valuable Journal, you will greatly oblige,

Your obedient Servant,

OSWALD BEALE COOPER.

Bengeworth, Sept. 28th.

Wm. Wright, æt. 74, a stout healthy-looking man, while on his road to work, on the 5th inst. fell suddenly down and expired, before a person in the same field could get to his assistance.

The following history, which I obtained from his daughter who kept house for him, was corroborated by two of his fellow workmen.

He had been a hard working man all his life; she had never known him have a day's illness, but for the last five or six weeks he had complained of looseness of the bowels, which he attributed to the cider he got when he worked during harvest, not being good; independent of this, he appeared well, did not lose flesh, and for several days before his death, had expressed himself better. He had been subject to slight attacks of head-ache, occasionally, after coming from work, but *never complained of any thing the matter with his chest.*

I examined the body eight hours after death, in the presence of Dr. Beale Cooper and Mr. Lewis, surgeon, who can testify to the accuracy of my report.

On exposing the viscera of the abdomen, nothing remarkable presented itself. There were a few patches of congestion on the lower part of the ilium and great intestines, but nothing like inflammation or ulceration. The liver and stomach were healthy, as also the spleen, kidneys and bladder. The aorta at its bifurcation was ossified to some extent, but the remaining part and the other vessels healthy.

Thorax.—There were slight, old adhesions of the pleuræ, on the right side; the lungs themselves free from any trace of disease; the pericardium contained an ounce of clear serum, was transparent, and presented no marks of inflammation; the heart was enlarged, principally on the left side, and, together with the great veins, gorged with fluid blood of the consistence of thin cream; the parietes of the left ventricle were much thickened, but the cavity not increased. The muscular structure was pale, but firm; the valves universally healthy. The right coronary artery presented a fine specimen of the atheromatous and bony deposits, the longitudinal branch being a complete bony tube; the left was very small, had only one speck of ossification, and that just at its origin. The thoracic aorta, with all its branches, appeared free from disease.

Encephalon.—The dura mater was paler than natural; a small quantity of fluid was effused between the tunica arachnoides and pia mater, the former of which membranes was transparent, the latter not so vascular as usual. The substance of the brain was firm, and presented, on section, very few bloody points. The lateral ventricles contained about an ounce and half of limpid serum. The carotid artery, on either side, where it passes through the cavernus sinus, was extensively ossified, and there were some specks of bone in the coats of the vertebral and basilar arteries, but the circle of Willis, with all its branches, seemed not to partake of the disease.

The principal point of interest in this case, is the absence of all those symptoms, during life, which we are led, by Heberden, Parry, and others, to suppose should accompany this morbid condition of the coronary vessels; indeed, I should have been inclined to have doubted the testimony of the daughter, had I not witnessed a similar case, of which, as I have notes, I will give a brief account.

Wm. Jones, aged 72, was admitted into St. George's Hospital, March 7th, 1828, for retention of urine. A catheter was introduced, with considerable difficulty, and a quantity of urine drawn off. The instrument was after this regularly introduced three times a day, and he appeared to be doing well; but on the 14th, after going to the necessary, he returned to his bed, as usual, and expired almost immediately on lying down. On examination, besides false passages, thickened bladder, and all the usual effects of neglected stricture; the heart was found to be enlarged; the coronary arteries extensively ossified, and the muscular structure pale and flabby. There were, also, some specks of ossific matter in the coats of the vertebral arteries, and 2 oz. of fluid in the ventricles. He had never complained of pain, or any symptom of disease in the chest.

There can, I imagine, be little doubt that the morbid state of the coronary arteries was the immediate cause of death in both of these cases, though in the latter, Dr. Johnson,* and others, might attribute it to the softened state of the muscular structure. It appears to me, however, that if this state of vessels will so much interfere with the action of a heart, otherwise healthy, as to cause death, it would much more readily do so in a heart that is flabby, and consequently unfit to perform its double office. The ossification of the arteries must offer some resistance to the heart's action; of this there cannot be a question; and hence the increased thickness of the parieties of the left ventricle, so generally found in these cases.

There is yet one other point of interest to which I will call the attention of your readers, viz.—the ossification of the cerebral arteries, with effusion into the ventricles, which so uniformly occurs in conjunction with this disease of the heart. I have observed this fact in several cases; one of which is published in the second number of the Medical Gazette for last October; and a very interesting case of this nature, in which 5 oz. of fluid were found in the ventricles, is detailed in the 1st No. of Dr. Farre's Journal; and there are many others on record.

At what period does this effusion take place? and how far may the ossification of the cerebral arteries interfere with the functions of the brain?

[The Editors wish particularly to call the attention of the Reader to these Cases, as connected with the valuable Paper of Dr. Walker in the present Number.]

* Medico. Chi. Review, April, 1826, p. 497; and January, 1829.

ARTICLE XI.

HOSPITAL REPORTS.

CHELTENHAM CASUALTY HOSPITAL.

Case I.—Purpura Hæmorrhagica, treated by Dr. Christie.

Hannah Pearson, æt. 18, was admitted a patient May 3, 1828. The mother stated this child to be affected with idiotcy from birth; that about two days ago she got wet and caught cold, and to-day there is an eruption all over the body, but more particularly on the lower extremities, bordering between a light red and purple, not elevated. She complains of great pain in the head and bowels, with shivering: tongue furred; bowels bound; pulse small and compressible; catamenia regular; is at present unwell. Cap. mist. aperient. ʒiij. alternis diebus.

5th.—She was getting better until to-day, when she was seized with a violent pain in the bowels. The medicine has acted freely. The spots are darker, but not increased either in size or number. Considerable prostration of strength; pulse small; tongue furred; has some cough. ℞ confection. aromaticæ ʒij. Quininæ sulphatis, gr. viij. Træ. cinchonæ ʒss. Aquæ cinnamomi ʒvii.ss. m. cap. ʒi. ter in die.

6th.—Considerably better; the pain in the bowels nearly gone; petechiæ not quite so dark. Pergat.

8th.—Much better; spots not so numerous, and lighter. The medicine acted briskly on the bowels, and the motions are improved. Pergat.

10th.—She came herself to day. The petechiæ have quite disappeared. She still remains very weak, but her mother has great difficulty in getting her to take the medicine, and wishes her discharge.

14th.—Her mother again applied to the dispensary, reporting her worse than she had ever been. Re-admitted.

The petechiæ of a dark purple colour, and very numerous; passes a good deal of blood by stool; stomach extremely irritable; rejects almost every thing taken. She does not complain of the severe pain in the bowels as at first, but has still some pain; pulse exceedingly small and weak; tongue covered with a brown fur; motions dark, very unnatural and fetid. ℞ quininæ sulphatis gr. viij. Infusi rosæ ʒvii.ss. Acidi sulph. dil. ♏ xij. Syrupi ʒss. ♏ capt. ʒi. ter in die. Capiat cal. et pulv. scammon. hora somni. Ordered to take arrow root and broth for diet.

15th.—A little better; passes less blood by stool; vomiting rather abated. Continue.

17th.—Petechiæ rather lighter in colour; motions still very fetid; passes no blood; vomiting still continues, but not so violent, and is of a light green colour; has also a troublesome cough with difficulty of breathing. Cont. mist. quininæ,—additione sy. papav. ʒi. in loco syr. simpl.

24th.—For the last week she has continued her mixture and

powders, with a linctus for her cough, which still continues excessively troublesome. Vomiting ceased; motions more natural and less fetid; the spots rather lighter; feels stronger. Applic. emplast. cantharid. pectori et cont. med.

26th.—The blister has been of great service; the cough has nearly left her; petechiæ much less. Continue.

27th, 28th, 29th.—Improving rapidly; petechiæ fading.

30th.—She yesterday left the house during her mother's absence, and has experienced a relapse, with cough, difficult respiration and vomiting; but the latter much less than before. Petechiæ less numerous. Applic. empl. cantharid. pectori. Cont. mist.

June 2nd.—Cough and difficulty of breathing nearly removed; petechiæ much lighter, and a great many have disappeared. Pergat.

4th.—Very considerably better; petechiæ nearly left, and the few remaining of a pale colour.

7th.—Dismissed, cured.

Case II.—Severe case of Vomiting attending Pregnancy.

TREATED BY DR. CHRISTIE.

Elizabeth Johnson, æt. 23, admitted a patient August 2, 1828; she was seized yesterday with violent vomiting and pain in the bowels, which lasted nearly the whole of the day without intermission, but she did not apply for relief till this morning early. She then complained of a pain in the epigastrium, (which was relieved by pressure,) and continued vomiting, (of a brown colour.) She appeared to be very much exhausted, and laboured under great prostration of strength. Her bowels had not been opened for three days; urine of a natural colour; pulse rather small and beat about 80; tongue loaded with a whitish fur; body cold and covered with perspiration. She is about two months gone with child. Ordered mist. effervescens. c. liq. opii sedat. Pil. calomel. ext. col. c. et ol. croton.

3rd.—Vomiting and pain in the stomach unabated; pulse as yesterday; bowels hard; no tenderness on pressure. Applic. emplast. cantharid. regioni epigast. Contin. pil. et mist. efferves. Ordered to have large enemata.

4th.—The vomiting has not ceased for more than an hour throughout, except yesterday, when after the blister was dressed, she thought it was nearly two hours before it returned, but it then came on with increased violence. Repeat enemata. ℞ hydrarg. sub. gr. xij. pil. saponis c. opio gr. xviij. ol. cinnamon. ♏ij. fiant pil. vi. capiat j. tertiis horis.

5th.—Vomiting rather worse, and the fluid which is thrown up is about the colour of tea. Pulse rather full and quicker than yesterday; bowels open; slight pain on pressure; tongue cleaner on the sides, and red. Fiat v. s. ad ℥xvi. ℞ aquæ cinnamoni. ℥ij træ. opii ℥i. ♏ capiat ℥ss. omni tertia hora.

6th.—Stomach still as irritable as yesterday, and rejects every thing taken. Pulse not so full, but she complains of great pain

in the epigastric region, increased by pressure. Applic. hirud. xviij. regioni epigast. et postea emplast. cantharid. Capiat hydrarg. sub. gr. viij. in pilulam 4tis horis. Bowels bound, although the enema has been persisted in.

7th.—The medicines at present have been of little service, as the vomiting still continues; and in fact she rejects both medicine and nourishment as soon as taken; pulse natural; bowels bound; tongue clean; great prostration of strength; she is unable to move without assistance. Eight of the leeches only took, but from the continued fainting which supervened, it was considered advisable not to apply any more. ℞ misturæ cretæ ℥i. spt. ammon. c. træ. opii a 3i. spt. æther. c. 3ij. m. A table spoonful to be given every two hours, with a tea spoonful of brandy.

8th.—She yesterday kept a little arrow root on her stomach for some time. Vomiting exceedingly bad; bowels confined. Ordered to continue the enema every third hour, with the addition of an ounce of the tinct. aloes in each. To continue the mixture and brandy.

9th.—She says she feels relieved in taking the medicine and brandy, more particularly at first: but the stomach continues very irritable, although certainly mitigated, and the pain in the epigastric region is less. Bowels open slightly. Habeat hydrarg. subm. g. x. in gelatina quamp. sumend. ℞ acidi hydrocyanici ♏ viij. Aquæ cinnamomi ℥ij. m. capiat ℥ss. sextis horis.

10th.—She was relieved for two or three hours by the acid, but the relief afforded was merely temporary, and after the first or second dose, the medicine appeared to have lost its effect, as the vomiting returned nearly as bad as previous to the time she took the mixture with brandy. Bowels open; tongue clean, and pulse natural; urine deposits a mucous sediment. Rept. mist. ut die Aug. 7mo.

12th.—Vomiting better, and she kept a little arrow root on her stomach. Bowels open moderately. She sat up in bed a little yesterday. ℞ aquæ cinnamoni. ℥ij. sp. ammon. c. træ opii a 3i. træ humuli 3xi. cap. ℥ss. quartis horis.

13th, 14th.—Improving.

16th.—Convalescent. Cap. mist. aperiens pro re nata.

23rd.—Bowels regular; no vomiting for nearly a fortnight. The lower extremities anasarcous, for which a mixture of the acetate of potash was ordered, and under its use this symptom disappeared.

30th.—Dismissed cured.

It may be worthy of remark, that notwithstanding the violence of the vomiting, and the powerful remedies employed, no miscarriage took place, and after the usual time of gestation, she was delivered of a healthy child, which she was enabled to suckle.

CHARLES W. TURNER, Pupil,
Cheltenham Casualty Hospital.

WORCESTER INFIRMARY.

A successful case of Lithotomy.

Richard Parker, a very healthy looking boy, 8 years of age, admitted into the Worcester Infirmary, Aug. 29, labouring under incontinence of urine, with abscess of the right testicle. On sounding, the presence of calculus in the bladder was readily ascertained. The operation was performed by Mr. Pierpoint, with Mr. Key's straight staff and knife. The operation occupied between 3 and 4 minutes. Pain and tenderness of the abdomen came on two days after the operation, which were subdued by leeches, and bleeding from the arm, since which time he has been gradually recovering. Oct. 15th.—The urine is all passed the right way, and the wound is nearly healed. H. COLE, House Surgeon.

Two cases of Calculus in the Bladder of the female, extracted by dilating the Urethra.

Within the last six months, two cases of calculus in the bladder have occurred in females in the Worcester Infirmary. One in a woman between thirty and forty, the other in a child about eight years of age. The former had suffered very severely from the disease for a considerable period. After dilating the urethra for some days by means of a sponge tent, the operator was enabled to pass a pair of forceps into the bladder, and to extract a stone about the size of a walnut, which was broken into several pieces, owing to its softness. The urethra of the child was dilated in the same way with a sponge tent, and a small calculus was gradually extracted.

Both patients had a good recovery, and left the infirmary retaining full power over the bladder.—(Editors.)

ARTICLE XII.

Parochial Returns of Births, Marriages, and Burials, that have been registered in the several parishes of the City and Suburbs of Worcester, including those of the several congregations who dissent from the Established Church, between the 1st of July and the 1st of October, 1829.

Births, 222; Marriages, 91; Burials, 140.

ARTICLE XIII.

Address from the Editors on the Conclusion of the First Volume.

It is highly gratifying, on a retrospective view of any laudable undertaking, to discover that its progress has been such as to encourage its further prosecution. Under this impression, the Editors of the Midland Reporter gladly avail themselves of the opportunity afforded, by the conclusion of the first volume of their Work, to address a few words to their friends, not only with the desire of inquiring whether they have prosecuted their undertaking in such a manner as, in some degree, to fulfil the intention with which they commenced it; but there are, likewise, considerations, to which they mean to advert, that are so intimately connected with their plan, as to call for a short notice. In the prospectus which announced the appearance of the Midland Medical and Surgical Reporter, the Editors observe,—that "the cultivators of Medical Science have eminently distinguished themselves in the general pursuit of knowledge; the proof of this assertion will be found in the medical annals of the last thirty years. This advancement of our profession has been accompanied by a caution and zeal, in conducting its periodical Journals, that have no parallel in the history of our art: no circumstance has tended more to improve it in France, Germany, and Italy, than the manner in which the Local History of Medicine has been given to the public. There is scarcely a district of any extent in those countries without a periodial Medical Record.

In this Kingdom, however, great as have been the efforts thus made, they have almost exclusively been confined to the three Capitals, London, Edinburgh, and Dublin. The Provinces have had no share in this pursuit, or at least, only so far as the Journals of the Capitals have derived support from the contributions of Country Correspondents. In reflecting on the state of Medical Science, and on the aid which it has derived from the opportunities of observation afforded by congregating the Sick in Hospitals, it has often struck us with surprise, that so little should be known of the many interesting cases that must have occurred in provincial Hospitals. If, from the establishment of these Institutions, faithful records of the valuable cases that have occurred in them had been handed down to us, our present limited knowledge of Mordid Anatomy, the only correct elucidator of disease, would have been greatly extended. We know well that great difficulties must present themselves in effecting an object so desirable, as making public these instructive cases. The daily anxieties and fatigues to which those, in general, are subject who have the professional care of these Institutions, are such as to afford little time for literary pursuits, and appear to present an almost insurmountable barrier to such an undertaking. It is not, however, to be denied, that by zeal and industry much may be effected, and the paramount importance of their object will induce the Editors of the Midland Reporter to endeavour, by every possible means, to make a faithful report of all matters of interest occurring in the several Institutions to which they are attached. Neither will their means of affording information end here: they reside in the centre of a populous district, where facts of importance are, doubtless, not unfrequent occurrences; and they have made such arrangements as will ensure an early notice of them.

"As the Reporter is to be strictly a record of facts, no Reviews will find a place in it; but every thing that can, in the slightest degree, tend to enrich the Topography of the District, will be readily inserted, more especially observations Statistical, Botanical, Geological, and Meteorological.

"The growing interest taken by the Profession in Medico-legal Science, will induce the Editors to use their best efforts to add to the hitherto scanty supply of facts in this important branch of knowledge. This object, they conceive, will be best attained by giving a succinct account of the most essential particulars of all interesting cases of this nature, that may occur in the Judicial Courts within their district. The intention, in short, of the Editors, will be to present such an account of all important Medical and Physical occurrences, that come under their observation, as will enable the Profession to ascertain the diseases of the neighbourhood, and trace their connection, as far as the present imperfect state of the art will permit, with any peculiarity in the soil or climate, or in the habitations and engagements of the people."

Whether the Editors have, in the numbers of the Reporter that have been published, succeeded in accomplishing any part of the difficult task they imposed upon themselves, is a question they willingly submit to public determination. They, however, may be permitted to observe, that they shrink not from a comparison of the articles contained in their Journal, with the *original* communications to any medical periodical work that has been published within the same space of time. The reflection is also very satisfactory to them, that to every subject mentioned in the Prospectus they have been enabled to pay some attention. The state of Provincial Infirmaries, and the means of making them still more conducive to the relief of human misery, have particularly attracted their notice; and they hope, by similar researches, and by continuing to give publicity to valuable Provincial Hospital Reports, their Journal will be the means of making these inestimable Institutions still more instrumental than they have been, to the advancement of Medical Knowledge. In Medical Topography, Medical Jurisprudence, Meteorology, and Statistics, they have not been idle; and in the progress of the work they will strenuously endeavour to satisfy the expectations they have raised on these subjects.

To those friends who have so kindly and ably assisted them in the infancy of their undertaking, by contributing valuable original communications, that have gone far to establish its reputation, they tender their warmest thanks; and they

feel assured that the most acceptable manner in which they can testify their gratitude, will be, so to conduct the Reporter, as that they may still consider it a respectable vehicle through which they may communicate the result of their observations to the public.

It would be still more agreeable to the Editors, if, on the present occasion, they did not feel called upon to notice a system of pillage,—they can give it no milder term, that has been adopted by some of their metropolitan contemporaries. The Editors are not anxious for controversy, but they cannot avoid stating the astonishment with which they have observed the contents of the Midland Reporter copied verbatim, line after line, page after page, yea even sheet after sheet, by other Journals, whilst these exalted metropolitan editors have, in some instances, scarcely deigned to distinguish the ignoble source whence they have obtained their information, by allowing even the words "Midland Reporter" to find a resting place in some obscure corner of their invaluable works.

The Editors wish not to be mistaken in these remarks; they can have no other feeling than that of gratification, when they see what they have done so much approved in the metropolis, that almost every fact they have published has been copied into the various Journals of that emporium of medical knowledge. But as they neither write for bread, nor for gain, nor from any unworthy motive, they hesitate not to affirm, that the reprinting of their Journal, wholesale, by the London press, immediately after its publication, with just a bare mention, at the conclusion of the extract, of the source from which it is obtained, calls for no great mental exertion, and but little critical acumen. Surely it can require no striking talent to conduct a periodical work, if a great part of the labours of the editor consist in ransacking the various original productions that appear in our science, and directing his printer to transfer them to his own columns. Yet such, in a short time, will be the easy occupation of a London editor, if the present system, adopted by some of the fraternity, become so far tolerated as to receive the sanction of the profession.

The Editors, however, will not permit these, nor any other adverse circumstances, to lessen their exertions, nor abate their zeal in behalf of the cause in which they are engaged: on the contrary, these transient difficulties will but redouble their efforts, and strengthen their determination to shew that the Provinces are not destitute of men capable of pitching their tents in the wide field of human science; and they pledge themselves, by lengthening their cords, and strengthening their stakes, to try their best to make the Midland Reporter "inter alia longè conspicuum."

NOTICES AND ACKNOWLEDGEMENTS.

Communications have been received from Dr. M'c Cabe, of Cheltenham; Dr. Darwall, of Birmingham; Dr. Jones, of Kidderminster; Mr. Waldron, of Bath; Mr. Cooke, of Malvern; and Mr. Roberts, of Chester; all of which will appear in the seventh number.

We are compelled, from want of room, to omit the Meteorological Report for the last three months, and the Half-yearly Report of the Worcester Infirmary.

The Title page and Index to Vol. I. will be given with the Seventh Number, which will be published on the 1st of February, and the succeeding Numbers Quarterly.

All Letters and Communications, addressed, free of expense, (under cover,) to the Editors, at the office of the Worcester Journal, will receive immediate attention.

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